

THE ORIGIN AND FUNCTION  
OF THE EARTHEN LONG BARROWS OF NORTHERN EUROPE

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#### Declaration

I declare that the research for and writing of this thesis was undertaken entirely by myself.

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March 1984



## Précis

The earthen long barrow of Northern Europe is one of many elements within a widespread tradition of large-scale monuments of funerary association witnessed in many regions of Europe throughout the Neolithic period. A considerable body of theoretical concepts has arisen from the various attempts to interpret the origins and use of these monuments.

The area of the North European Plain, diverse both geographically and environmentally, was inhabited by a variety of Late Mesolithic hunting and fishing communities, some of which achieved a considerable degree of economic stability. Contemporaneous events to the south of the Plain involved settlement by *LBK* groups and the introduction of a farming economy to the loess lands and similar environments in Central Europe. Prolonged contacts between these two economically and culturally diverse systems led ultimately to the adoption of a farming economy in Northern Europe, and with it to the emergence of a new cultural complex - the *Trichterbecherkultur*. One of the characteristic manifestations of this culture was the development of a tradition of large funerary monuments - the earthen long barrows. These barrows have long been a source of interest to antiquarians and from the mid-19th century were regularly, albeit not thoroughly, investigated.

The barrows are found in several concentrations across the North European Plain. The monuments are characterised by a number of commonly recognised features. Earthen mounds - occasionally exceeding one hundred metres in length - are set within stone- and/or timber-built enclosures. Complex interior arrangements involve a variety of structures whose purpose may not always be obvious but which nevertheless cannot be regarded as purely utilitarian in character. Recent discoveries in some areas confirm a long-held notion that the barrows contain within them remains of grave chambers, greatly varying in design and construction.

Evidence today suggests that a probable prototype of the external form of the earthen long barrow may be found in the local domestic architecture of the *Late LBK*, while the burial ritual was firmly rooted within the North European Mesolithic tradition. But the interpretation of their function centres equally on their social and symbolic significance within the communities of the *TRB* culture.

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Part I

## CHAPTER 1      INTRODUCTION

This work is a study of the North European earthen long barrows, which represent a distinct element within a tradition of large monuments of funerary association and which were constructed in many areas of Europe during the 4th and 3rd millennia bc. In the context of this study, earthen long barrows are long earthen mounds which were originally accompanied by a variety of external structural components, and which contain burials and burial-associated structures.

Of the two English-language names which are commonly used to describe this type of monument, the earthen long barrow and the unchambered long barrow, the former is used throughout and has been chosen for several reasons. Firstly, it distinguishes the monuments under consideration from a wide range of burial-associated structures which are covered by the nebulous term 'megalithic graves'. Although large stones have been used in the construction of the North European earthen long barrows, these correspond neither in size nor in the way they have been used to the massive stone blocks which form an essential element in some of the western European megalithic graves. This distinction, moreover, seems to go beyond the use of specific building materials and is inherent in the way in which different forms of funerary monument functioned in their respective areas.

Secondly, 'earthen long barrow' is not a classificatory term, in the sense that the name does not specify the nature of the structures found within the interior - neither their size, shape, form, nor the materials used in construction - and its use in the study of monuments which reveal a number of different, albeit related, structural components therefore seems entirely appropriate. Moreover, the use of the term 'unchambered long barrow', or indeed of its continental counterparts such as *Hünenbett\* ohne Kammer* (Beltz

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\* See Bakker (1979) Appendix A2e for a detailed discussion of the meaning of this word.

1910, Schuldt 1972), *kammerlose Hünenbett* (Sprockhoff 1954), *bezkomorowy grobowiec* (Chmielewski 1952, Jazdzewski 1970a) or *langhøj med jordgrav* (Thorvildsen 1941), is no longer justified. It will be shown in the latter part of this work that, apart from the variety of other structures, the earthen long barrows do contain primary burial chambers (chapter 9) which, unlike many forms of monument hiding under the term 'megalithic', were not built of large stones.

It is also felt that the term 'non-megalithic long barrow' (Kinnes 1975, 1979) is inappropriate as it immediately suggests a concept opposite to that of the 'megalithic long barrow', whereas earthen long barrows should in fact be considered as a parallel and complementary development and not as directly opposed to other forms of large funerary architecture. It is also felt that the 'earthen long barrow' is a well-established term in English-language literature (Piggott 1935) and it is not necessary to substitute it with a different or new form purely out of personal preference. This should be done only when there are good reasons for a fresh classification of monuments. Future research may indeed justify the introduction of a new concept but, for the time being, the use of a traditional name is preferred to yet another misnomer.

The thesis falls logically into three parts and these are briefly outlined below. The first part (chapter 2) reviews current theoretical developments in the study of burial. It discusses the relevance of a selected number of hypotheses on the function and use of large funerary monuments in the specific context of the North European earthen long barrows. It also offers some comments of a general nature and stresses the need for a broad theoretical approach to the study of prehistoric burial-associated structures.

The second part (chapters 3 - 5) provides an extensive background which is essential for the understanding of the earthen long barrow phenomenon. Chapter 3 outlines the geography and natural environment of the North European Plain, emphasising the variety of natural landscapes in such a vast region. Chapter 4 sets the scene prior to the emergence of the *Trichterbecher* (TRB) culture



complex and discusses in some depth the character of two diverse cultural complexes - the Late Mesolithic communities of Northern Europe and the *Linearbandkeramik* (LBK) and *Late LBK* farming groups. Particular attention is paid to the diverse nature of both complexes and to the contacts resulting from their co-existence. In chapter 5 the *TRB* culture complex is described. Various theories of the origins of the *TRB* are reviewed, comments are offered on the chronology, settlement and cultural developments within different areas, and particular emphasis is placed upon the diversity of influences which resulted in the specific character of this complex. Throughout the study the terms 'culture' and 'culture complex' are used in a broad sense to indicate temporally and spatially related phenomena. The basic archaeological concepts which provide a conceptual framework for the study of cultural processes are illustrated in Figure 1.

The third part of the thesis (chapters 6 - 10) is concerned with the North European earthen long barrows themselves. Chapter 6 describes briefly the history of research into this type of monument in different areas of Northern Europe. Chapter 7 discusses general aspects of earthen long barrows such as their location in the natural and cultural landscapes, and characteristics of size and orientation; the variety of forms encountered among the monuments is also discussed. Investigation of the construction and interior structures of the earthen long barrows forms the content of chapter 8. External and interior structural components, and their arrangement around and within the monuments, are discussed in some detail and interpretations of their possible functions are offered. Chapter 9 is concerned with the study of burial in earthen long barrows. Very special attention is paid to the study and interpretation of a neglected feature, namely the grave structures. Burial and other associated rituals are also discussed.

In the concluding chapter (10) the North European earthen long barrows are set within the wider, European context of large-scale funerary monuments and a brief comparison with the British earthen long barrows is offered. This is followed by a return to

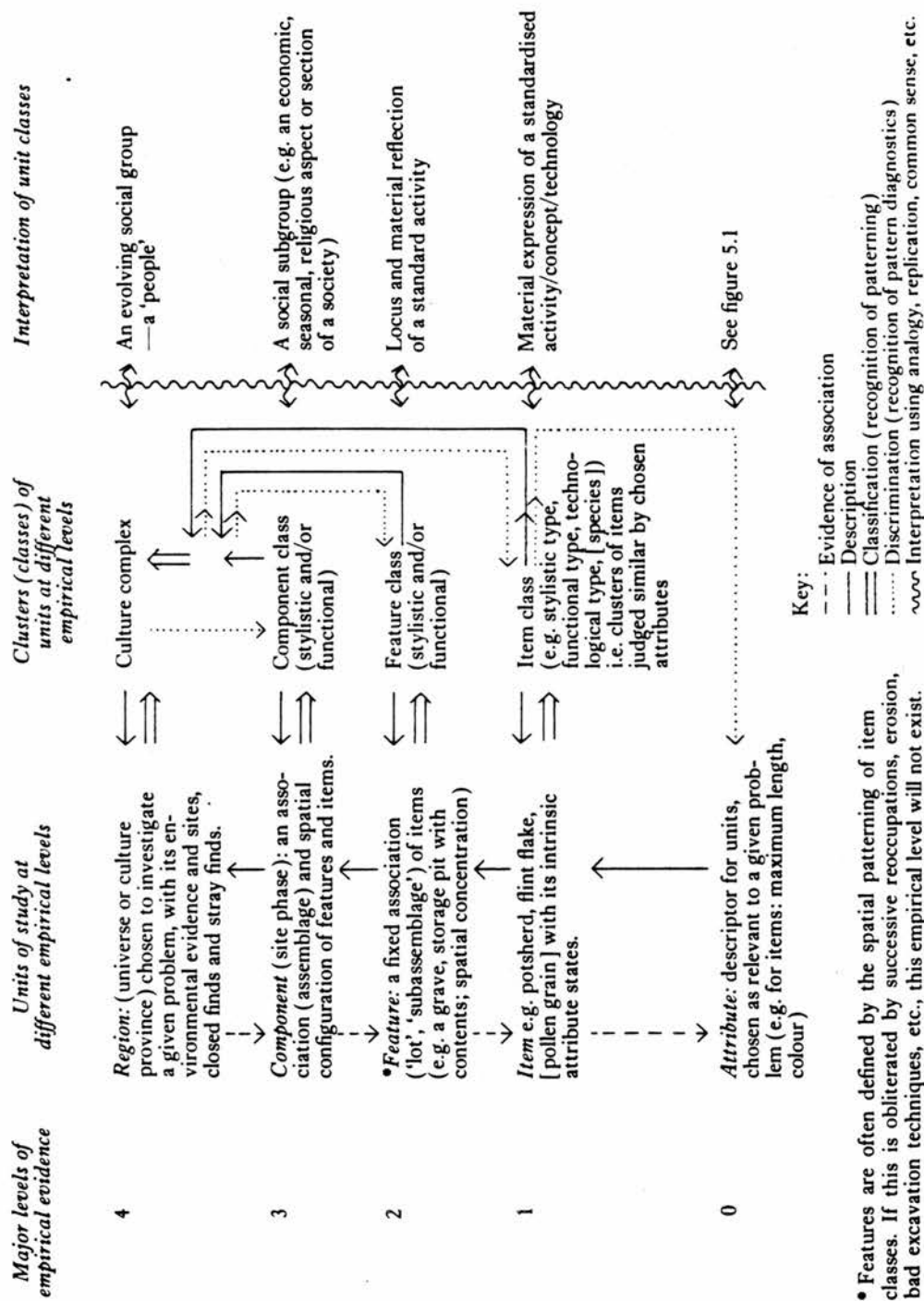


Fig. 1 Flow chart of fundamental archaeological concepts (from Doran and Hodson 1975)

the North European earthen long barrows, and a discussion of possible local sources of origins and the multiple function of the monuments among the North European *TRB* communities concludes this work.

Throughout the work, figures have been included as close to the relevant text as possible, and it is hoped that the reader will not be inconvenienced by their somewhat cumbersome size. A catalogue of the North European earthen long barrows will be found in Appendix 2.

CHAPTER 2      CURRENT THEORY OF BURIAL STUDIES: ITS RELEVANCE TO THE  
STUDY OF THE NORTH EUROPEAN EARTHEN LONG BARROWS

Theoretical developments are today evident in all fields of archaeology. The study of burial in particular invites many stimulating, if controversial, interpretations; fresh concepts have been introduced from other disciplines such as anthropology, ethnography and social sciences. Numerous discussions and reviews of current theories have appeared (Bartel 1982; Binford 1971; Chapman 1977, 1980, 1981a, 1981b; Chapman *et.al.*, 1981; Pader 1982; Renfrew 1973, 1976a; Saxe 1970; Tainter 1975, 1978 to name only a few) and therefore the following discussion will be confined to those aspects which are of immediate concern to the present study.

The traditional approach to the study of the megalithic graves was based on typo-chronological description and set within a framework of cultural interpretation through historically known processes such as diffusion, invasion or migration (Daniel 1963, 1970; Piggott 1965). This approach further incorporated the concept of the graves as an expression of religious ideology. With the development and subsequent application of radiocarbon dating the megalithic diffusion theory, already suspect on archaeological grounds (the 'megalithic' province showed no cultural unity), had to be modified in favour of one allowing at least some independent development (Renfrew 1976a, chapter 7). And yet the concept of the introduction of the megaliths in Northern Europe from outside still holds strong in some quarters (Jażdżewski 1970a, Schwabedissen 1979b). Although the idea of the 'megalithic culture' (Sprockhoff 1938) has been abandoned, its substitution by the idea of a 'megalithic ideology' - *Megalithgedanken* - (Schwabedissen 1979b, 143) has done little to change the general approach to the interpretation of the megalithic phenomenon in Northern Europe in terms of either origins or function (Jażdżewski 1970a, Nilius 1971, Schuldt 1972, Wiślański 1979 and others).

The normative, culture-oriented approach to the study of

megaliths, and of burial practices in general, has undergone considerable criticism, mainly as a result of ethnographic research into burial such as that of Binford (1971), Saxe (1970) and Ucko (1969). The main criticism has centered around the fact that the normative approach considers burial to have been a solely religious phenomenon (Daniel 1963, Piggott 1965) although the ethnographic evidence suggests that this is not necessarily justified. Important differences in these criticisms may however be observed. While Binford and his followers totally reject the idea of any religious significance in burial Ucko, although doubting a direct relationship between burial and belief in after-life, does not exclude a spiritual belief of some kind (Ucko 1969, 264-265).

The acceptance of a religious significance in burial to the exclusion of other factors invites criticism on the grounds that it is to a large extent a result of a Christian ideology and as such wholly inappropriate in a prehistoric context. Nevertheless as Hodder's research has shown, the study of burial practice must be concerned with a society's attitudes to life and death, with their beliefs about themselves and the world outside (Hodder 1980, 168). Such a relationship between burial practices and beliefs has no place in Binford's approach, but there is sufficient evidence for it not only in ethnographic sources but through archaeology as well, where certain phenomena may be explained in neither economic, nor social, nor technological terms but only through reference to the non-material concepts of the society under discussion.

A current assumption in the study of prehistoric burial is that mortuary practices were related to the social organisation of a given society. This approach is derived from two sources. One source is represented by a long tradition of anthropological research into burial within a social context, and is most explicitly seen in the work of such anthropologists as Radcliff-Brown (1922), Firth (1967), Gluckmann (1962), Bendann (1969), Goody (1962), Douglas (1969) and Bloch (1971). These variously attempt to correlate burial practice with observable social patterns in terms of social cohesion, a combination of social, economic and psychological effects of death upon the society, preservation of authority, inheritance and so on. The other source of

the socio-organisational theme in burial research derives directly from the application of this concept within the New Archaeology approach (Binford 1971, Saxe 1970, Tainter 1975).

Before some general comments are offered on the significance of the social organisation approach to the study of burial practices, we should perhaps consider the main assumptions behind this model. The main premise of the social organisation approach is that of a direct relationship between the mortuary practice and the social organisation of a given society (Binford 1971, 23-24; Saxe 1970, hypotheses 5-8) although the reasons for asserting a specific connection between the two have never been sufficiently explained. The key issue in the identification of a social organisation is the recognition of a 'social persona', which is assumed to be expressed in the age, sex, social position, social affiliation, conditions and location of death of an individual (Saxe 1970, 7, 17).

Identification of these factors in archaeological evidence, and with specific reference to the earthen long barrows in Northern Europe, is difficult. The age and sex of the buried individuals may be assessed only when sufficient skeletal remains have survived, but these are notoriously lacking in the earthen long barrows (chapter 9). Moreover, even when some skeletal material is available, the degree of preservation may make determination of age and sex very difficult. Evidence of location and condition of death is virtually inaccessible to the archaeologist and this is particularly so in the earthen long barrows. Similarly the interpretation of social position and affiliation of the deceased may be available in an anthropological context but again is difficult to infer from archaeological evidence.

A common method of judging social differences has been through the study of grave goods. The pitfalls in this approach and the danger of misinterpretation have often been commented upon and were most explicitly stated by Ucko (1969, 265). In the case of the earthen long barrows - with a few exceptions - the grave goods are either totally lacking or so insignificant in number and quality as to make any assertions about social differences unjustified. And further to assume that the individuals buried within the earthen long barrows were

socially different from those who were buried in the flat graves and then to suggest that this division is evidence of a social stratification within that society (as is commonly assumed, cf. Jażdżewski 1970a, Wiślański 1979) surely results in a circular argument. It is not suggested here that such a stratification did not exist but merely that there is no direct evidence from which to infer it.

Another assumption of the socio-organisational approach is that  
 "... variability in mortuary practices must be understood in terms of variability in the form and organisation of social systems, not in terms of normative modes of behaviour"  
 (Tainter 1978, 107).

Ethnographic evidence does indeed show that some societies use more than one mode of burial (for example the Australian aborigines, Haglund 1976) and some anthropological research indicates that there is a relationship between social organisation and burial customs (Bendann 1969, Goodenough 1955, Goody 1962). But it must be stressed that in many cases it was precisely this relationship (*i.e.*, between burial practices and social organisation) that was the subject of study in the first place. This in itself does not suggest that there is no connection between burial and other variables. Moreover, burial practices, apart from being related to various elements of a given society's composition, will also to a certain degree be dependent upon factors which are outwith the control of a human group - such as climate, where the time of death (winter/summer) may influence certain aspects of a burial practice (chapter 9). Equally a death may occur at a time when a whole community is engaged in a vital activity, such as harvesting, and normal procedure may not be fully observed owing to the lack of time.

It is further important to remember that in Binford's study of forty randomly selected, non-state societies, subsistence economy was used as a criterion for an assessment of the complexity of social organisation. But just as Binford, similarly to Ucko (1969) claimed that burial is not synonymous with after-life beliefs, so subsistence economy is not synonymous with social organisation. Moreover, a review of ethnographic evidence shows clearly that within each basic subsistence economy - be it hunting and gathering, pastoralism or agriculture -



social organisation, far from being an abstract phenomenon, is closely related to factors such as environment, availability of resources, history, cultural tradition and political organisation. Correspondingly, burial practices are inextricably connected with all these variables and the relationship between burial and social organisation is merely one of many.

Hodder has recently argued that the social organisation approach to burial study searches for straightforward links in a complex combination of inter-relating factors (such as was outlined above) and that such a simplistic approach obscures causal processes and real relationships (Hodder 1982, 145-146). He points to examples of societies - the British Gypsies or the Merina of Madagascar - where burial ritual, far from reflecting social reality, emphasises the social ideal. He suggests further that an explanation of burial practice must take into consideration evidence of beliefs and attitudes to death, and the integration of these attitudes with the practical aspects of life.

What is then the significance of the social organisation approach to the study of burial in a prehistoric context? As a theoretical model this approach developed in response to dissatisfaction with the culture-oriented approach (Binford 1971; Chapman 1977, 1979). The cultural framework of burial study was criticised for its inability to explain the social order of societies and the cultural discontinuities apparent in archaeological evidence as well as in the interpretation of burial practice in terms of religious beliefs.

In the context of his discussion of megalithic graves Chapman wrote in 1977 that

"...we are no longer dealing with a *single* problem: the communal tomb is now to be studied as an artefact which embodies social, religious, economic and technological behaviour within a local cultural context"

(Chapman 1977, 25-26).

This approach has implications pertaining to the study not only of the megaliths, but of burial in general. And yet a review of current literature on the subject reveals a very different situation. With a few exceptions, the socio-organisational approach seems to be assuming a dominant role; this is clearly evident in the works of such researchers



as Goldstein (1980, 1981), O'Shea (1978), Shennan (1975), Shephard (1979) and Tainter (1976) and has been expressed succinctly in the words of Shanks and Tilley who wrote that

"...the interpretation of mortuary ritual is a particular case of the wider problem of the ideological legitimization of the social order"

(Shanks and Tilly 1982, 129).

We must really ask ourselves whether, as archaeologists, we study burial practices in order to interpret the social order of past societies, or whether we study them as one of many elements of pre-historic reality? If we are interested in the latter we must surely be aware of the danger of merely substituting the normative approach by that of social organisation. As Hodder rightly argued we have assumed a direct, simplistic relationship between burial ritual and social organisation (Hodder 1982) and such an attitude will eventually lead to the same stalemate which results from the culture-oriented approach. It is desirable to expand from the constraints of any one interpretative framework but, as has been observed earlier, burial practices are related to many aspects of the society which performs them. It is thus only by understanding the relationships between many variables - environment, economy, history, cultural tradition and contacts, the beliefs and attitudes of that society - that we may hope to interpret any phenomenon which is the result of a cumulative interaction of all the above elements. Abstracting just one of them, irrespective of its presumed importance, will result in often misleading conclusions and at least in a fragmentary understanding of the problem.

With regard to the megalithic graves there are, however, other theoretical concepts which are of particular relevance in the context of the present work. In contrast to the religion-oriented approach, which viewed a megalithic grave as a formal expression of the cult of the dead (Childe 1925, 1936; Daniel 1963, 1970; Piggott 1965, 1973) the more recent concept of the multi-functional nature of these structures is currently more central to their interpretation (Fleming 1972, 1973; Kinnes 1975, 1981; Renfrew 1973, 1976a, 1980). It is suggested that megalithic graves were not merely burial places but that they also played a significant role within the system of symbolic expression of a

society. Kinnes in particular argues for distinguishing between the funerary and the monumental nature of the megalithic graves suggesting that, since not all burial is of a monumental character, the latter may have developed independently (Kinnes 1975, 17).

The Oxford English Dictionary defines a monument as "a sepulchre" and as "anything that by its survival commemorates a person, action, period, or event" (The Compact Edition of the Oxford English Dictionary 1971, 1844). Thus, the term 'monumental' in the context of the present work embodies two separate but nevertheless related concepts: firstly, the sepulchral character of the megalithic grave, and secondly, its function as a means of communicating an idea which was of importance to a given group of people.

In the North European Plain there is ample evidence to support the contention that not all burial was of a monumental nature. Some of the burial structures are simple flat graves found either individually or in larger complexes in the vicinity of settlement sites (chapter 9). Such a pattern, which is clearly in evidence from the very beginning of the *TRB*, seems to continue throughout the whole duration of this culture (cf. the stone-packing graves of the Danish MN; Becker 1967) and even some of the northern stone-built chambers are little more than simple receptacles for the dead (Fischer 1956, Häusler 1975).

Kinnes has argued that the succession of interior structures within some monuments, for example at Nutbane (Morgan 1959) and Kilham (Manby 1976), should be interpreted in terms of funerary sequences associated with the burial area rather than with the whole monument (Kinnes 1975, 19; 1981, 85). This is to a certain extent borne out by the interior arrangements within the North European long barrows (graves, internal partitions - chapter 8) but the function of other architectural elements (stone and/or timber enclosures, facades, timber buildings - chapter 8) may have a more complex association - possibly fulfilling a role within a funerary ritual and simultaneously bearing upon the symbolic nature of the monuments.

With regard to the actual mounds it is generally assumed that their construction followed upon the cessation of funerary activities. Hitherto little attention has been paid to the possible sequence in the

construction of the earthen mounds, but there is evidence suggesting that in some instances there may have been several stages involving extension, elaboration and/or incorporation of earlier structures, even though this is by no means the case at all sites (chapter 8). Evidence of multi-period construction is now forthcoming in the areas of Denmark and northern Germany, but the relationship between the interior arrangements and the covering mound is still rather ambivalent. Multi-phase construction does not in all cases suggest an elaboration but sometimes rather a change in architectural and/or ritual concepts.

Consideration of the monumental character of the megalithic graves has also included the size and shape of the mounds. Fleming has analysed the megalithic graves in terms of their size and considered especially the relationship between the size (length) of the mound and that of the burial area (Fleming 1973). A comparison of the ratio of these two elements led him to suggest a scale of tomb construction in which monuments efficient in terms of burial space are not impressive in monumental character and *vice versa* (*Ibid.*, 182-184).

The problem of the size of the monuments is however much more complex. First of all, although some barrows are indeed impressive in their size (reaching over 100m in length), the actual dimensions must be considered in the context of the overall size of the monuments in any particular region. What appears a large barrow in one area may be of average size in another and thus the size may be indicative of importance only in local rather than general terms. Secondly, there is no reason to assume a direct relationship between the size of the burial area and that of the whole monument. Indeed, if funerary and monumental functions are to be interpreted as discrete elements such an assumption is wholly unwarranted. Moreover, in the context of earthen long barrows the size of the burial area or areas was not permanently fixed (as it may have been in the case of a stone-built chamber) and the number of graves as well as their distribution within the confines of the enclosure vary substantially. It is highly unlikely that a specific number of burials within each barrow would have been predicted in advance, just as it is unlikely that these should have been confined to an area of a particular size. There is ample evidence to suggest that

such rules simply did not apply. There are some very long barrows which contain only one or two burials but there are also equally long barrows with many graves (chapter 9). The same applies to short examples. Furthermore, the fact that a small area was used for actual burial does not suggest that other segments of the earthen long barrow enclosures were without burial-related purpose. Again evidence from the North European earthen long barrows indicates that activities of various kinds took place at different points within the enclosure (chapter 8).

One of the most important features of a monument is its visibility. In this context, both shape and location must be considered. The external appearance of the barrow, particularly its shape, may have played an important role. It seems that in many North European examples the final appearance of the barrow must have been clear in the minds of the builders from the moment construction began. This is particularly evident in trapezoidal and triangular examples where, although it is possible to detect sequential construction, the interior arrangements as well as the general plan suggest a clear overall design (chapter 8). There is further a degree of standardisation of shape throughout the whole of the earthen long barrow province. The choice of shape (rectangular, trapezoidal or triangular) as well as a degree of formality in the architectural elements (stone or timber-built enclosures, facades etc.,) must have been intentional. A long, artificial mound, especially when seen in profile, provides an immediate focus within a natural landscape and may frequently appear even larger than it really is. An illusion of gigantic size is especially evident in the very long and very narrow barrows in northern Germany and reaches ultimate expression in the triangular barrows of Kujavia (chapter 7).

Location within the landscape is also an important aspect of the monumental character of the megalithic graves, and must include both the natural and cultural landscapes. Visibility in the natural landscape, formality and prominence of location are invariably interpreted as indicating the monumental function of a structure. It may therefore be important to consider how far the prominence observable today reflects the original situation. Many of the North European long barrows are

viewed today in a landscape fundamentally altered by several millennia of man's economic activity within the environment and, although some long barrows were undoubtedly visible from the moment of their construction, many need not have been. Moreover, environmental evidence does suggest that land clearance was of a local nature and, prior to the middle of the third millennium bc, did not involve stripping large areas of vegetational cover (chapter 5). Thus the prominence of location of many barrows today may be a relatively recently acquired characteristic, accentuated by ploughing at the foot of the barrow and by the present-day openness of an originally forested landscape.

As far as the cultural landscape is concerned the relationship between earthen long barrows and the contemporary settlement pattern remains ambivalent, mainly owing to the paucity of evidence. There is however some evidence to suggest that this relationship was of a complex nature, dependent on many factors. The differences between clustered and dispersed distribution must to a certain extent reflect the contemporary pattern and the exploitation of a natural environment, but cultural and social factors may also have played an important role.

Renfrew has argued that the appearance of the megalithic graves was related to growing territorial divisions (Renfrew 1973, 544). The main criticism of this approach must centre around the assumption that all barrows functioned simultaneously. There is, however, an interesting dichotomy in this assumption. In terms of the funerary function of the earthen long barrows, only a few would have been in use at any one time. On the other hand, considered in terms of their monumentality, they may indeed have functioned simultaneously. Once a barrow was constructed it would become a permanent feature within the landscape and, although the overall distribution pattern must be interpreted in terms of passive rather than active occupation of a given landscape, it does not exclude a long-term, monumental function.

Within the context of discussion of the monumental function of funerary monuments a brief return to the theme of interpretation within the social context is necessary. Invoking an earlier definition of a monument as a means of communicating an idea, it may be further argued that such an idea is expressed for the benefit of the living and/or

subsequent generations. In this context arguments pertaining to the social position of the buried individuals may effectively be turned around. Irrespective of his life-time position, after death an individual no longer requires the enhancement, or indeed recognition, of his social importance. The living community, on the other hand, may need to create a tradition which in an easily recognisable form will provide a constant visual, symbolic remainder of particular concepts and values which are important for the social, economic and cultural integration of a group. The shifting of emphasis from mainly funerary to mainly monumental may have been a logical process and indeed there is at least some evidence in support of this premise which will be discussed later on.

Fleming argues that the monumental nature of the funerary monuments was fundamental to the enhancement of the position of the living leaders, and to their claim to power and control based upon a relationship with the select dead (Fleming 1973, 189). However it seems more appropriate to suggest, with the above contention in mind, that it was not the power of the individual leaders but the permanence and cohesion of a community that was symbolically expressed and strengthened in the large-scale funerary structure.

## Part II



CHAPTER 3      THE NORTH EUROPEAN PLAIN: ITS GEOGRAPHY AND NATURAL ENVIRONMENT

The area covered by this study, the low-lying terrain along the North Sea and the Baltic, forms a continuous physiographical unit - the North European Plain - which extends eastwards from the Netherlands and merges imperceptibly into the vast plains of Russia. The surface of the North European Plain consists of glacial deposits which were laid down upon the Cretaceous landscape during the Quarternary glaciation, and the present landscape is a direct result of glacial activity. The glacial deposits include the boulder clay of ground moraine, mixed deposits of terminal moraines and fluvioglacial sands (Shackleton 1958).

The coast of the North European Plain is greatly varied in character. Along the North Sea the coastal area consists of tidal flats which become submerged at high tide; sweeping sand beaches and shifting dunes form the western coast of Jutland. The *Förden* coast of Schleswig-Holstein and eastern Jutland is characterised by long, steep-sided inlets (drowned valleys of glacial meltwater) but further to the east - between Lübeck Bay and the Odra estuary - the coastline becomes less dramatic, with irregular inlets behind islands; to the east of the Odra it becomes smooth, built up with sand dunes and with a few inlets.

The chief landscape features of the North European Plain to the east of the Elbe are arranged in concentric bands which run roughly parallel to the Baltic coast and continue northwards along the Jutland peninsula (Fig. 2). The Baltic Heights (the morainic hills of Jutland, the Mecklenburg and Pomeranian plateaux) are wedged between the terminal moraines. These areas consist of deposits of sand, gravels and boulder clays and the landscape is of gently undulating hills, generally between 100 and 200m in altitude, although heights over 300m are reached in Pomerania. The Baltic Heights are dotted with many lakes, some of them quite large - for example those of the Müritzer See,



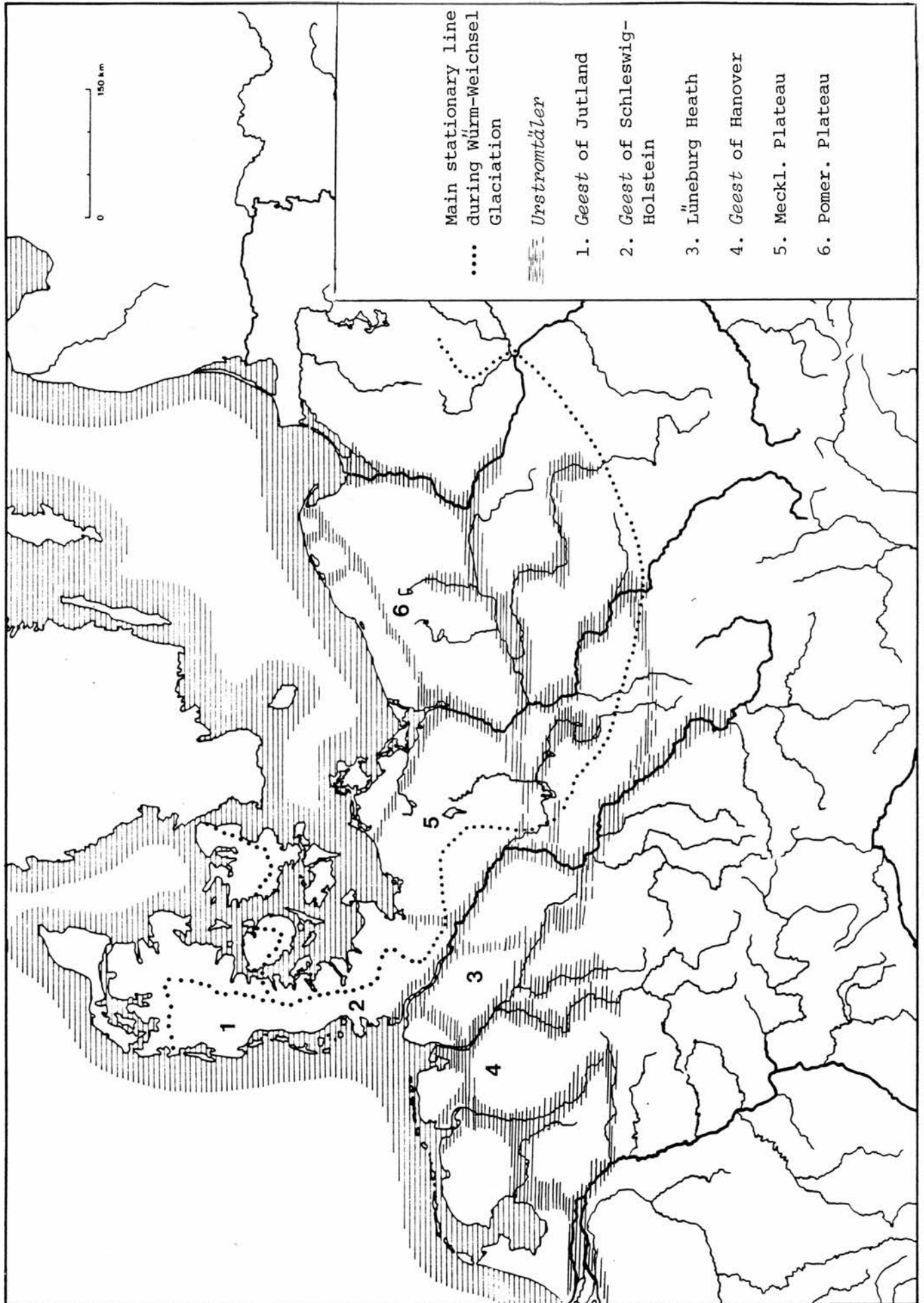


Fig. 2 The geography of the North European Plain (various sources)

Schweriner See, Miedwie Lake, Myśliborskie Lake - and the landscape is further diversified by numerous hollows and rivers, many of which drain into the lakes.

Because the land at the southern edge of the glacier sloped upwards, rivers draining out of it flowed in the east-west direction and formed very wide channels known as *Urstromtäler* or *pradoliny* (Fig. 2). Although today's rivers (Vistula, Noteć, Warta, Elbe) follow the course of these ancient valleys to a certain extent, the present river system of the North European Plain is mainly a result of the breaching of a post-glacial landscape. The floors of these ancient valleys are covered with sand dunes and provide good, fertile soils.

In the area west of the Elbe such zonal arrangements of the landscape cannot be seen (Fig. 2). Along the North Sea coast there is a narrow belt of low-lying marshes which extends further inland along the valleys of the Elbe, Weser and Ems rivers. Beyond the marshes most of the area consists of fluvioglacial deposits, mainly sands, which were deposited to the west and south of terminal moraines. This landscape, known as the *Geest*, has been divided into separate regions by the post-glacial river system, and differences within it (marsh- and heathland) are brought about by differences in soil and drainage. In the north there are the heaths of Jutland and Schleswig-Holstein (Fig. 2); to the west, especially around western Hannover and Oldenburg, the *Geest* is interspersed with bogs; to the east, on the Lüneburger Heide, where it is higher and drier, it represents a typical heath landscape.

To what extent the present soil distribution reflects the conditions of the 5th and 4th millennia bc is difficult to determine, since climatic changes as well as man's continuous economic activities have substantially disturbed and altered the natural environment of the North European Plain. The general discussion of environmental conditions offered below must of necessity therefore be regarded as an approximation; the degree to which certain areas today appear infertile and unsuitable for settlement does not necessarily correspond exactly to conditions prevailing during the period of prehistoric

activity under investigation.

The coastal marshes to the west of the Elbe carry fertile loam and clay soils, but for the most part this area is characterised by heavy podzolised sandy and gravel soils; peat and heath cover large areas. On the more recently glaciated deposits east of the Elbe the leaching has not progressed as far as in the west and the boulder clays of the Baltic Heights offer good brown soils, interspersed with lighter sandy soils in the river and stream valleys. To the south of the Baltic Heights the area of the ancient river valleys (*Urstromtäler*) is composed mainly of sands and gravels covered with peat, heath or marshes but it alternates, particularly towards the east, with ground moraines where fertile brown soils have developed on clays and loams (for example in Kujavia or the Pyrzyce basin). These valleys also carry a certain amount of recent alluvial deposits.

A further difficulty in the reconstruction of the natural environment of the North European Plain during the 5th and 4th millennia bc is posed by the great variety of landscape relief, soils and water networks evidenced throughout the area, and the consequent diversity of environmental conditions. In the climatic division of the Postglacial, the period which is relevant to the present study is known as the Atlantic (5500 - 3000 bc). In Northern Europe it is characterised by mean annual temperatures which were generally 1,5 - 2,5°C higher than those of today, and by an increase in humidity which was the result of a northward retreat of the polar air (Magny 1982, 40, Fig.2). Such optimal thermal conditions were conducive to the growth of warmth-loving plant species which resulted in a 'mixed oak forest' cover over most of Northern Europe. The dominant species were oak (*Quercus*) and hazel (*Corylus avellana*); but linden (*Tilia*), ash (*Fraxinus*), maple (*Acer*), hornbeam (*Carpinus betulus*) and alder (*Alnus*) are also regularly evidenced in pollen records (Kruk 1973, 136). The sandy soils of the North European Plain also supported substantial areas of coniferous forest (Iversen 1973, 65).

The mixed vegetation forest supported rich mammalian populations while coastlines, as well as inland lakes, streams and rivers,

supported a variety of waterfowl, bird, fish and shell species. Thus each area offered an environment with a wide range of resources. This abundance of local environments in the North European Plain and their regional diversity were, as will be seen in the subsequent discussion, particularly suitable for exploitation by human groups with diverse economic strategies.

CHAPTER 4      THE LATE MESOLITHIC AND EARLY NEOLITHIC COMMUNITIES  
OF THE NORTH EUROPEAN PLAIN

The communities responsible for the construction of the earthen long barrow monuments arose through the interaction of the late Mesolithic groups which, during the 5th and the beginning of the 4th millennia bc, occupied the northern and north-western parts of the North European Plain, and the early farming communities which at that time were establishing themselves across the central part of Europe. Renfrew has suggested that the emergence of this tradition in the northern and north-western coastal belt was not a mere coincidence, since these were precisely the areas where hunter-gatherers and farmers could no longer avoid one another (Renfrew 1973). The inevitable contact of two such diverse cultural phenomena must have had a profound influence upon both and resulted in a cultural transformation symbolised, for example, in the tradition of earthen long barrows. In order that we should grasp the complexity of this change it is necessary to examine some aspects of both these phenomena.

THE LATE MESOLITHIC

Although we have by now formed a general picture of the late Mesolithic communities, we still have little knowledge of particular groups. Two general observations, which apply to all areas under consideration, can however be made. Firstly we find that what previously was a fairly uniform Maglemosian tradition of the North Sea Land undergoes regional diversification in the first half of the 7th millennium bc. The reasons for this process are far from clear, although continuing environmental change may have stimulated differential cultural development. Secondly, common to all areas is the tendency to a reduction in the size and an increase in the variety of tools and, in particular, the widespread appearance of

microliths (Kozłowski 1975, Tringham 1971).

Flint-tool assemblages form the bulk of the material evidence of the Mesolithic *équipage*, and a traditional approach to the study of these has been based on tool typology and functional differentiation. Such an approach, however, is biased from the start. The lithic element has, by its nature, a good chance of survival, but only in exceptionally favourable circumstances will the equipment made of organic materials survive.

Furthermore, the functional interpretation of various tool-forms (microliths in particular) has been based on the assumption that the majority of implements were associated with hunting, for a long time considered a dominant element in the Mesolithic economy. However, studies of present-day hunter-gatherer societies (over a wide range of natural habitats) suggest that gathering was likely to be as important and that it also required a variety of sophisticated equipment (Clarke 1978b, 12-13). In the case of different types of microliths there is a possibility that the different shapes, such as 'rods', triangles, crescents or trapezes, were used in a variety of combinations to make composite tools. According to need they may have been used for the production of cutting knives, saws, grating boards etc. (*Ibid.*, Fig. 2). The traditional study of the lithic assemblages has, moreover, frequently been devoted to the establishment of type-fossils for different groups. But it must be remembered that even a relatively undisturbed material will, depending on the context in which it was found, inevitably represent only a proportion of a complete industrial assemblage, and so interpretations in terms of characteristic types may be entirely misleading. The common denominator of the later Mesolithic assemblages is the contemporaneous increase of microliths. The most commonly found forms include a variety of triangles, rod-like forms, rhomboids, crescents and trapezes, although the proportions of these various types vary within and between regions (Kozłowski 1975).

In the North European Plain, the evidence of Late Mesolithic communities is derived from several regions - the Netherlands, Northern Germany and the Jutland Peninsula but less so from Northern Poland. At the north-western end of the Plain, in the Netherlands, assemblages

with microlithic triangles are known from the second half of the 7th millennium bc (Jacobi 1976, 72; Lanting and Mook 1977, 32-33). It is, however, the subsequent development - of the De Leien-Wartena group - that is of interest here. According to Newell the appearance of the De Leien-Wartena group was a result of contact between the local population and the retreating post-Maglemose groups of the North Sea Plain (Newell 1973, 408). The earliest appearance of the De Leien-Wartena is, on present evidence, dated to the beginning of the 6th millennium bc (Bergumermeer, GrN-6845: 5990 $\pm$ 75 bc) and the chronological bracket for the duration of the whole complex is from c. 5900 to c. 4550 bc (Lanting and Mook 1977, 35).

The industry is characterised by core axes, thin triangles and points with retouched bases. Trapezes found with the De Leien-Wartena assemblages most probably reflect southern influences. It has been proposed that the De Leien-Wartena complex continued longer than present evidence suggests, and may possibly have given rise to a late, Dutch version of the Ertebølle-Ellebek culture which would seem to be represented at such sites as Swifterbant and Hazendonk (Louwe-Kooijmans 1976, 234). The Swifterbant sites are presently dated to c. 5800 - 4700 bc (Mesolithic) and 3400 - 3200 bc (Neolithic) with a transitional stage at about 4400 - 4300 bc (Waals, van der, 1983 lectures delivered at the University of Edinburgh); so this possibility must be seriously considered.

In Northern Germany, Denmark and possibly in Northern Poland the Late Mesolithic communities form a complex known as the Ertebølle-Ellebek culture (Schwabedissen 1958a, 1958b, 1972; Troels-Smith 1953, 1967; Wiślański 1979). In Schleswig-Holstein the Ertebølle-Ellebek culture is dated, according to Schwabedissen, to between 4200 and 3500 bc (1972; 1979b, Fig. 12) although Lanting and Mook are in favour of a slightly later chronology - 4050 to 3250 bc (1977, 59). Schwabedissen has distinguished two phases: the older, between 4200 and 3800 bc - presumably based on C-14 dates from Satrupholmer Moor (Schwabedissen 1958a), Förstermoor (Schwabedissen 1967, 418) and Ellebek (Y-440) - and the younger phase, dated on the basis of a series of C-14 dates from the Ertebølle-Ellebek levels at Rosenhof (Schwabedissen 1972, 7; 1979b,



Fig. 12). There is of course no *a priori* reason why the beginnings of the Ertebølle-Ellerbek culture should not belong to the end of the 5th millennium bc, but until the North German dates and their context are comprehensively published any discussion of the Ertebølle-Ellerbek culture chronology in this area is purely speculative, since C-14 determinations available for this culture in Denmark begin consistently later, from about 3800 until 3350 bc (Lanting and Mook 1977, Fig. 4; Tauber 1972, 107).

Further to the East, contemporary and corresponding to the Ertebølle-Ellerbek culture, is the Lietzow group, found in Mecklenburg, Rügen and in the Odra river estuary (Gramsch 1973, 220). It is possible that this group also extended further to the East, along the northern Polish coast. Unfortunately, subsequent changes in the sea-levels of the Baltic resulted in a complete loss of the contemporary coastline and it is extremely unlikely that such evidence will come to light (Więckowska 1975). The Lietzow group is synchronous with other Ertebølle-Ellerbek groups. The site at Lietzow-Buddelin is bracketed by two C-14 dates: Bln-561: 3865 $\pm$ 100 bc and Bln-560: 3240 $\pm$ 120 bc, which are in agreement with other dates from the Ertebølle-Ellerbek culture contexts (Lanting and Mook 1977, 55).

The most common typological elements of the Ertebølle-Ellerbek culture are long and short end-scrapers, end-scrapers with concave ends and long burins. Among the microlithic tools the predominant forms are rhomboids and transverse arrowheads. The heavy component includes large core axes, flake axes and also, in the Lietzow group, axes of cylindrical shape. The connections between all Ertebølle-Ellerbek assemblages are further underlined by a uniformity of bone and antler implements (Gramsch 1973, Brinch-Petersen 1973, Clark 1975).

The late Mesolithic industries of the eastern part of the North European Plain (eastern part of Northern Germany and Northern Poland) are represented by the Ahlbecker See group (Gramsch 1973, 219) of the Ueckermünder Heide and the Płonia group of Western Pomerania (Więckowska 1975, 402). The Ahlbecker See group is characterised by backed bladelets and a predominance of triangles and a very similar industry is shown in the Polish material (Więckowska 1975, 398-409). Core and flake axes are less frequent than in the West. Although the finds



associated with the late Mesolithic groups in Poland are still quantitatively small, it is possible to observe that typologically the Płonia group represents a western component of the Chojnice-Pieńki late Mesolithic complex, of which the Chojnice element is found in the North while the Pieńki element is known mainly from Central Poland.

Problems posed by archaeological evidence of the settlement and economic strategies of the late Mesolithic communities, especially in the context of multiple adaptations to the environmental conditions during the early part of the Atlantic period and influences deriving from a contact with early Neolithic communities, form some of the key issues in the current archaeological climate. In recent years a number of studies have appeared (for example Kozłowski, S.K. 1973, 1975; Mellars 1978 - all papers therein; Clarke 1978b) which have made attempts to formulate models of the late Mesolithic subsistence and settlement as well as to provide a theoretical framework for the better understanding of the archaeological evidence from the period in question. Unfortunately, the scope of the present work allows us to make no more than a few comments with reference to evidence of typically Neolithic elements (pottery, evidence of domesticates) within the Mesolithic *milieu*. For detailed discussion of these problems the reader is referred to the works mentioned above.

The littoral zone of the North European Plain is an area which undoubtedly holds vital clues to the transitional stage between the hunting-gathering and farming economies. Here the late Mesolithic manifestations in the form of the Ertebølle-Ellerbek culture were, as mentioned earlier, contemporary with the farming complexes of the *Linearbandkeramik* culture and its immediate derivatives. It is difficult to determine whether certain processes of food-production were intrinsic to the hunter-gatherer mode of life, or whether they were a result of stimuli from the farming groups. Taking into consideration the relatively late chronological position and localised farming traits of the Ertebølle-Ellerbek culture, the latter suggestion seems more plausible. Nevertheless it must be remembered that the littoral habitats did offer conditions which might have been conducive to the

attainment of some degree of stability and environmental control (cf. Bailey 1978).

The claims for the adoption of agriculture and animal husbandry by the Danish Ertebølle communities have, for the time being, fallen victim to the revised Danish radiocarbon chronology (Tauber 1972). The suggestions of cereal growing during the Dyrholm II phase, and of animal domestication in Muldbjerg I, have been associated chronologically with pollen evidence for the Elm Decline (Troels-Smith 1953, 1967, 516). Such palynological chronology was not sufficiently precise and now, on the basis of radiocarbon determinations, the dating of the Elm Decline in Denmark has been placed between c. 2640 and 2530 bc (Tauber 1972, 109). All dated Ertebølle sites are consistently earlier and no true Ertebølle site has so far produced definite evidence of farming. Even the relatively late layers of the long-occupied site at Ringkloster reveal only evidence of hunting and gathering (Andersen, S.H. 1975). Recent publications which discuss aspects of the economic strategy of the Ertebølle culture make no references to farming (Brinch-Petersen 1973, Bay-Petersen 1978).

The early farming communities were not in such intimate contact with the hunting and gathering groups of Denmark, and the littoral zone in general did not seem to be particularly attractive to the early *Linearbandkeramik* culture groups. It was only during the post-LBK phase - that of *Stichbandkeramik* and Rössen cultures - that some contacts with the North occurred (STBK pottery sherds are apparently known in the Ertebølle context in Central Jutland; Prinke and Skoczylas 1980, footnote 122).

More direct contacts may possibly be envisaged in the area of Schleswig-Holstein. Pollen samples from some of the Ertebølle-Ellerbek sites, for example at Satrupholmer Moor or Rosenhof, revealed small but definite amounts of cereal pollen (0,3% in profile A at Rosenhof; Schütrumpf 1972, 13) as well as evidence of *Plantago lanceolata*. This is regarded by Schwabedissen as sufficient proof of both cereal growing and woodland clearance and he further assumes that this evidence must imply a full Neolithic economy (Schwabedissen 1979a, 1979c). Such small quantities of cereal, however, do not necessarily mean that crops are

being grown regularly. They are more likely to reflect either exchanges between the Rosenhof community and a neighbouring Neolithic group (cereals in exchange for some other commodity) or may indicate occasional attempts at cereal cultivation, possibly by way of experiment or as a supplement to the hunting and gathering diet. Similarly, evidence of woodland clearance in this context may well reflect manipulation of vegetational cover in order to induce the growth of a particular plant species - for example hazel. This phenomenon is well documented in Britain (Simmons 1969), its implications have been extensively discussed (Mellars and Reinhardt 1978) and it has been argued for Northern Europe as well (Clarke 1978b,16). Indeed, considerable amounts of hazel pollen are witnessed in both Rosenhof profiles (Schütrumpf 1972, 15).

Animal bone evidence from the Ellerbek sites shows wild animals at sites such as Dümmersee although the bones of cattle from Rosenhof are relatively small and Nobis claims that they are of wild/domesticated transitional variety; they are said to represent either local domestication or cross-breeding of wild local with small imported cattle (Nobis 1979, 378). If this identification is correct, then we may indeed be witnessing a stage in early animal husbandry. There is no reason to insist that the animal domestication process was associated exclusively with Neolithic groups. The littoral zone most probably had by then a tradition of animal husbandry, with experience of culling and taming animals, and indeed the evidence from the Ellerbek sites may indicate a stage in the transition from the hunting economy.

Pottery-making among some of the late Mesolithic communities represents one aspect of contact between the late Mesolithic and early Neolithic groups of the North European Plain. Pottery has been found on many of the Ertebølle-Ellerbek sites: in north-western Holland (at Swifterbant, Hazendonk and Kesseleyk(?); Louwe-Kooijmans 1976), in Schleswig-Holstein (Hüde, Satrupholmer Moor and Rosenhof; Schwabedissen 1958a, 1958b, 1972), in Denmark (Ertebølle, Ringkloster; Troels-Smith 1967, Andersen 1975), on Rügen (Lietzow-Buddelin; Gramsch 1973) and recently a number of late Mesolithic assemblages which contain pottery have also been commented upon in Northern and Central Poland (Cyrek *et al.*, 1983). The basic form is a thick-walled, coil-built

vessel with slightly everted rim, pointed base and scanty ornamentation.

How do we regard the appearance of pottery vessels in the obviously Mesolithic contexts? It is reasonable to assume that containers of some kind had been used prior to the making of clay pots, especially for the purpose of gathering plant foods. They were likely to have been made from organic materials such as leather, wood or reeds, although they were not likely to have been used for cooking. Indeed, examples of wooden vessels are known from Christansholm (Becker 1947); typologically they correspond to the Ertebølle pottery and, irrespective of doubts expressed with regard to their C-14 date and *TRB* culture association, they are an excellent example of a container made of organic material which may have been commonly used by Mesolithic groups. It is possible that the form and shape of the Ertebølle pottery could have been inspired by local, organic material prototypes, but it is more likely that the idea itself arrived from outwith the Ertebølle culture.

As a technique, pottery-making was probably relatively easy to assimilate and it certainly did not require the long-term accumulation of knowledge which is essential to successful cereal growing and animal husbandry. The recent study by Hulten of ceramic technology from Denmark and Sweden concludes that the Ertebølle culture pottery was technically less accomplished and that the actual technique was undoubtedly acquired through contacts with pottery-making farming groups. The influence of the *LBK* culture pottery is supported by the apparent knowledge of *chamotte* and plant-tempering, which are typical of the *LBK* technology (Hulten 1977, 49). Hulten also suggests that the Mesolithic groups learned to select and prepare clays, but the actual technique required longer experience and it was not until the subsequent *TRB* culture that this technology was fully developed (Hulten 1977, 51).

The pottery which is associated with the assemblages, otherwise Mesolithic in character, from the Polish finds represents however a different problem. These sites (about 130 in all) which represent closed Mesolithic contexts are younger than the Ertebølle culture

ceramics discussed above. On the basis of pottery ornamentation, further comparisons with ceramic assemblages from the co-existing farming communities (late *Linearbandkeramik*, TRB and Globular Amphora cultures) as well as palynological dating, these assemblages are placed between 3200 and 2600 bc (Cyrek *et al.*, 1983, 102-106, Fig. 1). The association of pottery with Mesolithic flint assemblages need not be questioned. Indeed the evidence presented (*Ibid.*, 89-94) does suggest secure contexts for some of the sites, but whether these finds represent what the researchers call the "ceramic Mesolithic culture" or the Wisticka culture (*Ibid.*, 91), or merely represent evidence of the exchange of goods between the surviving Mesolithic and various agricultural groups, remains to be established. Not until more securely dated evidence is available and, especially, until the technological and morphological aspects of the pottery in such inventories are studied, can this matter be resolved. For the time being it is preferable to see them as acquired rather than locally produced elements.

#### THE EARLY NEOLITHIC

The appearance in the middle of the 5th millennium bc (4600 - 4500 bc) of the *Linearbandkeramik* (LBK) culture represents the earliest archaeologically attested evidence for the introduction of the farming economy in Central Europe. The earliest LBK is at present evidenced in the upper Tisza, Morava and Vah river basins (Bakker *et al.*, 1969, Quitta 1967a, 1967b, 1969; Kulczycka - Leciejewiczowa 1979; Milisauskas 1978) and its colonising potential is evident in its apparently rapid northward and westward expansion (Fig. 3), since by about 4450 - 4300 bc it is seen encroaching upon the southern limits of the North European Plain (Strzelce, Kujavia, GrN-5087: 4310 $\pm$ 70 bc; Geleen, the Netherlands, GrN-995: 4420 $\pm$ 60 bc).

Diagnostic elements of the LBK's material manifestations include distinctive pottery, polished stone implements and long, timber-built houses. The pottery is decorated with curved and straight incised lines and in form includes a variety of semi-spherical bowls with flat or rounded bases, sack-like vessels occasionally with flared-out rims,

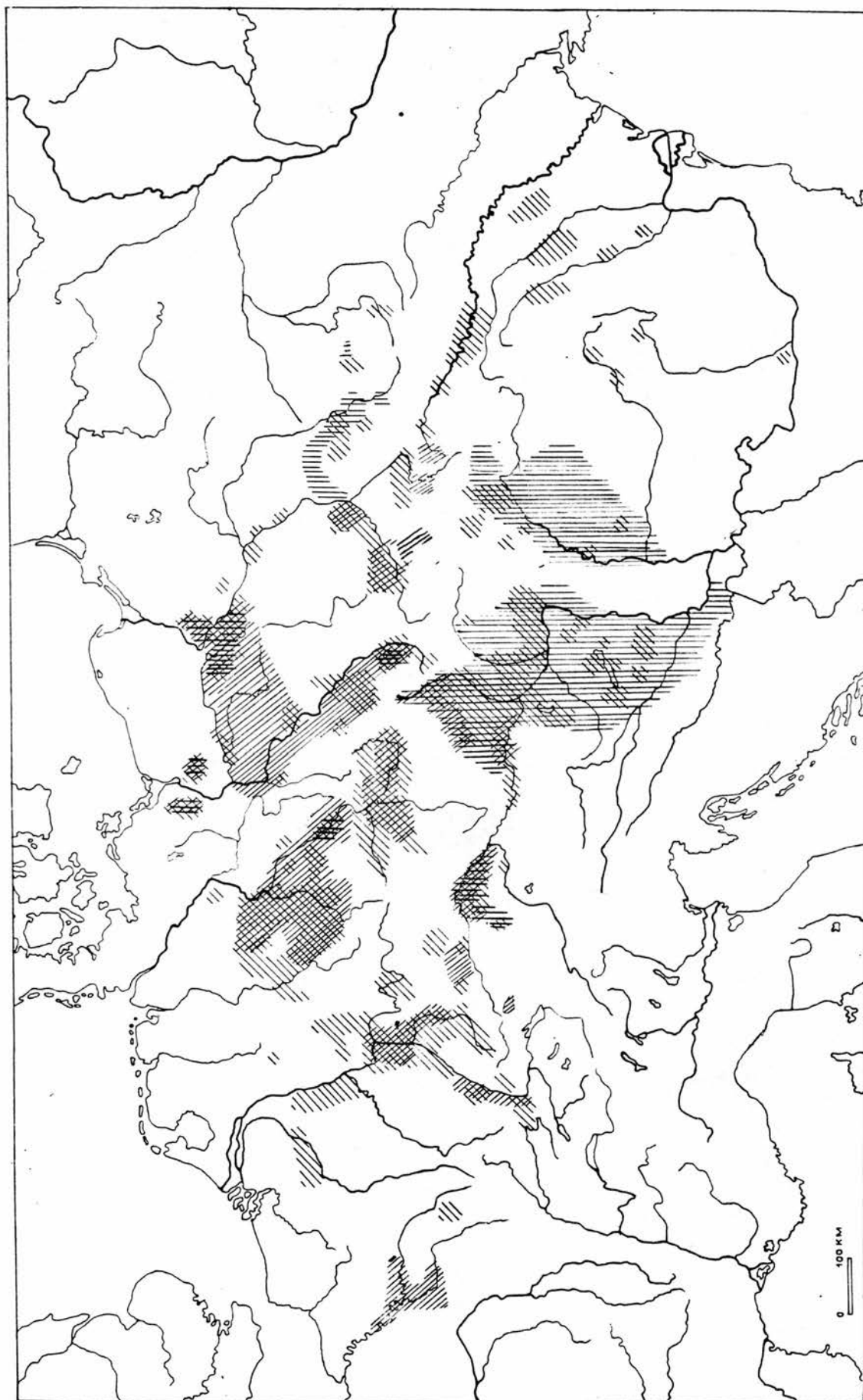





Fig. 3 Distribution of early farming cultures in Central Europe (  LBK,  Rössen/STBK,  Lengyel/Tisza-Polgar and related; after Kulczycka - Leciejewiczowa 1979)



knobs and protrusions and in the later phases also vessels with hollow stands (Fig. 4). The pottery of the early phases (regionally known as *älteste* / *Krumlov*; *ältere* / *ačkova* / *Flomborn*) gives an impression of relative stylistic uniformity (Milisauskas 1978, 55) but regional variations occur in later phases, which follow a general pattern of eastern (Music-note / *Želiezovce*) and western (*Winkelband* / *Šarka*) stylistic developments (Kulczycka - Leciejewiczowa 1979, 83-84).

Particularly characteristic of the large-tool inventory of the *LBK* are the *Schuhleistenkeile* (of basalt and amphibolite), although their association with the earliest phases is not certain. *Schuhleistenkeile* show a general development from the flat, long form, rectangular in cross-section, to the thicker, shorter examples with D-shaped cross-section and an obliquely cut end - the latter representing a typical, classic *LBK* form (Prinke and Skoczylas 1980, 28). The appearance of this tool and its function - hoe/plough-share/axe - have not been resolved as yet and some general comments on this subject are offered in the section dealing with a similar problem in the context of the adaptation of the axe in the *TRB* culture (chapter 5).

Apart from the crystalline rocks, the tool inventory of the *LBK* culture offers evidence for the use of flint. Based on the production of blank blades a variety of tools were made, amongst which the commonest are various scrapers, end scrapers, borers and sickles (Tringham 1971, Kulczycka - Leciejewiczowa 1979). Studies of these flint industries suggest that the earliest extraction of flint and the development of flint mining in Central Europe are associated with the *LBK* culture (Lech 1981b). Flint extraction by the *LBK* communities is documented at the 'chocolate' flint sources on the northern fringes of the Holy Mountains (Schild 1976, 149); it is also associated with the extraction of the Moravský Krumlov hornstone in Moravia, and the Jurassic flint deposits of the Cracow Uplands (Lech 1981a; 1981b, 47).

The C-14 date associated with the Tomaszów mine (Holy Mountains) suggests mining was taking place by the end of the 5th and beginning of the 4th millennia bc (GrN-7050: 3945±40 bc) and the C-14 dates from the Olszanica *LBK* settlement (Milisauskas 1976, 32), where Jurassic flint was used, suggest that flint mining in the region of the Cracow Uplands

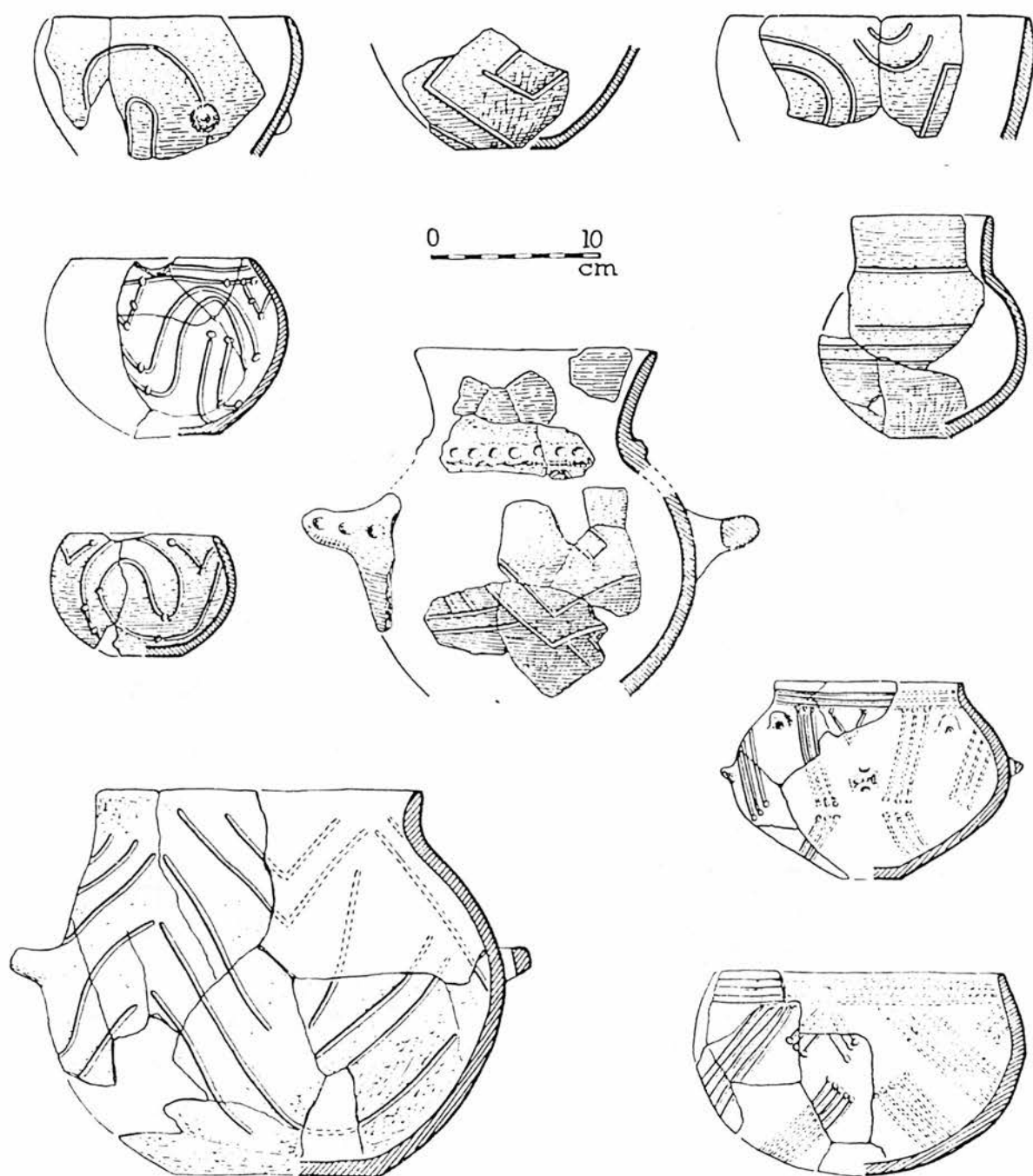


Fig. 4 *Linearbandkeramik* pottery (after Kulczycka - Leciejewiczowa 1979)



may well date from the second half of the 5th millennium bc (Lech 1981b, 47). Moreover Lech suggests that, in spite of the absence of extraction sites in certain areas, the appearance of flint types such as Volhynian or Rijckholt, the quality of the raw material and its wide distribution additionally support the existence of *LBK* flint extraction. Such early evidence of flint mining in Central Europe carries important implications for the role of the *LBK* tradition in the development of flint industries in Northern Europe, especially those of the *TRB* culture. These implications will be discussed later.

Although it is becoming obvious that a large village with long houses represents only one aspect of the *LBK* settlement site (Kruk 1980), the long house nevertheless forms a distinctive feature of the *LBK* culture (Buttler and Haberey 1936; Modderman 1970; Milisauskas 1972, 1976, 1978). The houses vary in length from 7 to 45m, with an average of about 20m (Tringham 1971, 118), and the ground plan is preserved in a rectangular layout of five parallel rows of post-holes, two on the outside, three inside. They are frequently surrounded by long, narrow pits which are said to have provided earth for daubing the walls. In the Netherlands the interior post arrangement differs from that in the eastern area of the *LBK*; here a Y-configuration offers a central area relatively free of posts, usually interpreted as a main habitation area.

The above-ground construction of the long houses is interpreted as a combination of posts, wattle and daub walls, and a gabled roof. Much of the discussion of the function of these structures centres on the interior arrangements such as raised floors, internal partitions, habitation and storage areas, as well as the social implications of these structures (extended family unit; Modderman 1970, 1973; Schlette 1958; Soudský 1966, 1969; Soudský and Pavlů 1972; Startin 1978; and others).

Although in many areas the final stages of the development of the *LBK* culture cannot at present be clearly defined, the regional ceramic styles (*Želiezovce* and *Šarka*) herald the subsequent disintegration of this relatively uniform culture. Thus at the transition from the 5th to the 4th millennium bc, in the areas central to the *LBK* distribution - Bohemia, Moravia and Saxony - and also in Silesia,

Kujavia and Western Pomerania, the *LBK* culture is succeeded by the *Stichbandkeramik* (*STBK*) culture, so called because of a distinctive design of geometric bands filled with deep strokes which decorate the pottery (Kulczycka - Leciejewiczowa 1979, Behrens 1973; Fig. 5).

The C-14 dates available from the *STBK* contexts (Bln-66, K-555, H-224/223 and GrN-4832) do suggest at present a rather short horizon in the first two centuries of the 4th millennium bc, although the distribution of the *STBK* as well as its widespread influence (up to Western Pomerania, Mecklenburg and possibly even Denmark, Siuchniński 1972) do argue for a longer duration. Assuming the date of 4100 - 3900 bc for the late phases of the *LBK* (Lanting and Mook 1977, 42; Czerniak 1980, 72) some contemporaneity between the two cultures is possible, and indeed in Kujavia a period of co-existence between the late *LBK* and *STBK* groupings has been suggested (Kośko 1982, 33, 36; his phase Ia of the *Late LBK*).

To the west of the main distribution area of the *STBK* culture - in the Rhineland and in south-western Germany - the *LBK* culture tradition is seen to continue in a sequence of local groups - Hinkelstein and Grossgartach (Whittle 1977, 110-113). Judging from their similarities in ceramic style, they were probably contemporary with the *STBK* culture, but the precise chronological and cultural relationship between them is not certain.

These cultural groupings are in their turn succeeded by the Rössen culture, whose distribution covers most of western and central Germany, reaching as far north as the Lower Elbe (Schwabedissen 1967, Fig. 3). The dating of the Rössen culture rests on an inadequate number of radiocarbon determinations; according to Schwabedissen it began around 3900 bc (Schwabedissen 1967; 1979c, Fig. 1) but it is not known which dates are used in his scheme as none are quoted. Lanting and Mook suggest that the Inden date (KN-330: 3990 $\pm$ 200 bc) has possibly been included (Lanting and Mook 1977, 45) although they express some reservations. As far as the Rössen material in Northern Germany is concerned the C-14 dates refer to the second half of the 4th millennium bc (cf. Hüde, C-14 dates between 3615 and 3260 bc; Lanting and Mook 1977, 53).



Fig. 5 *Stichbandkeramik* pottery (after Kulczycka - Leciejewiczowa 1979)

In terms of material culture the above named groupings show clear evidence of continuity in the development of ceramic styles, tool inventories and domestic architecture. There are clear affinities in the form of vessels although a new element - a beaker-like pot - appears (Behrens 1973, Fig. 14-m). The ornamental motifs continue earlier *LBK* patterns (triangles, chevrons) although the technique changes from continuous grooved lines to multiple strokes and these are further elaborated in the rich motifs of the Rössen pottery (Behrens 1973, Figs. 13, 14, 15, 17, 18 and 19).

The blade tradition of the *LBK* flint industry is continued in the *STBK* and Rössen cultures, and stone implements develop from the unperforated *Schuhleistenkeile* to rectangular forms with perforations (*hohle durchlochte Schuhleistenkeile*) and axe-hammers with triangular cross-section (*durchlochte Breitkeile*; Behrens 1973, 53) although the former tend to be more common in the North European Plain, spreading well beyond the presently known Rössen distribution (Schwabedissen 1967, Figs. 2a and 2b).

Long houses continue to be constructed but there is a progressive improvement in their stability through the development of a trapezoidal ground plan (cf. sequence at Zwenkau; Illet 1980, 56). Wattle and daub construction is abandoned in favour of walls of closely spaced timbers, and eventually deeper bedding trenches appear. The interior of the houses also changes. With the transference of more roof weight onto the side walls and a reduction in the number of interior posts, more free space becomes available.

In the eastern part of its distribution the *LBK* culture is succeeded, towards the end of the 5th and the beginning of the 4th millennia bc, by two large cultural complexes known as the Tisza and Lengyel cultures (Kulczycka - Leciejewiczowa 1979). In the area south of the Carpathians these two complexes are relatively clearly distinguished, with the Tisza culture more to the east - in the Tisza river basin - and with the Lengyel culture to the west - in the valleys of the middle Danube, Drava, Vah and Morava rivers (Fig.3). The Tisza culture is sometimes referred to as the Tiszapolgár cultural complex, with the Polgar elements considered to represent the late stages of the



Fig. 6 Lengyel and Tisza culture pottery (after Kulczycka -  
Leciejewiczowa 1979)

Tisza culture proper (see Kamińska and Kozłowski 1970, 76-83 for detailed discussion and bibliography). The diagnostic element of this culture is pottery which includes a variety of forms - biconical vessels, wide-mouthed and with splaying rims, beakers, deep bowls and profiled bowls, some of the pottery being covered in red and white painted geometric designs (Kulczycka - Leciejewiczowa 1979, Fig. 39). The typical ceramic forms of the Lengyel culture include a similar range of vessels - amphorae, a variety of bowls (some on hollowed pedestals) - with designs executed in black and red (Fig. 6).

The relationship between these two cultures as well as their chronological positioning is still problematic. The Lengyel culture is dated from about 3800 bc (Quitta 1967a, 1969) and the Tisza culture is generally thought to be slightly older (Kulczycka - Leciejewiczowa 1979). The precise relationship between the two complexes has still to be established, but these problems are beyond the scope of this study.

To the north of the Carpathians the situation is however more complex. Neither the Tisza nor the Lengyel culture is seen in its pure form and since additional complications are posed by the strong *STBK* influences in certain regions (for example the upper Odra basin or Kujavia) a variety of local groups (Samborzec, Malice Pleszów, Modlnica, Ocice, Wyciąże, Jordanów or Brześć Kujawski etc.,) has been recognised, all of them related but each bearing different cultural and chronological connotations (Kulczycka - Leciejewiczowa 1979, 105-120).

The earliest of these influences appear at the beginning of the 4th millennium bc (GrN-5977: 3905±40 bc; Kruk 1980, 26) but they continue over a long period of time - the final stages of late Lengyel influences at Brześć Kujawski are dated to about 3300 - 3100 bc (Czeraniak 1980). Because of this complexity, and this development along lines different from that south of the Carpathians, it has recently been proposed that in areas where ceramic assemblages and other cultural elements reveal a mixed character the concept of the Tisza (-Polgar) and Lengyel cultures should be abandoned in favour of the *Late Linear-bandkeramik* culture (Kultura późnej ceramiki wstęgowej; Bednarczyk *et al.*, 1980, 55, footnote 1). Although the actual nomenclature may be



a matter for discussion among scholars directly concerned with the study of these complexes, this proposition seems entirely justified on the basis of the material evidence from the northern fringes of the post-*LBK* development, especially in Kujavia. Moreover in the future it may substantially clarify developments in the area north of the Carpathians and perhaps obviate the need for the synchronisation and classification of archaeological material, on the basis of typo-chronologies worked out elsewhere which have been so dominant in archaeological research in Central and Northern Europe.

Thus, in an area of particular importance for the understanding of developments which may eventually have led to the appearance of the *TRB* culture (southern fringes of the North European Plain), the transformation from the *LBK* to the *Late Linearbandkeramik* (*Late LBK*) is placed at around 3900/3800 bc, on the basis of the appearance of stroke ornamentation as well as noticeable adaptations of settlement to the lowland environment (Czerniak 1980, 72; his phase I). Subsequent *Late LBK* development is set within a framework of IIa - IIIc phases which are provisionally dated to 3700 - 2900 bc (Czerniak 1980, 66, Fig. 32; Koško 1982, 45-47; Fig. 2), with the Brześć Kujawski group beginning sometime around 3700/3600 bc and continuing until the end of the 4th millennium bc. Although this scheme still requires verification through a larger number of C-14 dates (particularly for the early phases) and depends upon the concept of technological dating of pottery (Czerniak and Koško 1980, 63) it does offer a scheme which can be used to a great extent independently of developments further afield.

At the southern edge of the North European Plain, especially in Kujavia and possibly also in Western Pomerania, the processes which led to the transformation from *LBK* to *Late LBK* culture are today no longer seen in terms of the traditional concepts of direct migration and diffusion from the south, but as resulting from the economic and cultural adaptations of southern (*i.e.* Lengyel and Tiszapolgár) and western (*i.e.* *STBK* and Rössen) elements to the environmental and cultural conditions of the European lowland (Czerniak 1980, 138-139; Koško 1982, 33). At the same time greater importance is attached

to other cultural systems (that of the autochthonous late Mesolithic and then early *TRB* cultures) as influential in the development of the lowland *Late LBK* culture.

The adaptation of the *LBK* culture's economic system to a lowland environment is seen, first in the expansion of settlement of the *Late LBK* culture from the exclusively black-earth zone of Kujavia into neighbouring areas of lighter sandy soils (for example Konary, site 6; Koško 1982, 33), and then in the subsequent acceptance of a farming economy by the Mesolithic groups (*TRB?*).

The external influences throughout the *Late LBK* are most clearly observed in ceramics and both southern and western elements are registered in connection with the developments in technology, ornamentation and forms of pottery (see Czerniak and Koško 1980a for detailed description). They may be further seen in the acceptance of elements of domestic architecture (*i.e.* the long house). Houses with wall posts in individual post-holes are thought to be of western (*i.e.* *STBK* and Rössen) provenance and are considered older on the basis of stratigraphy and cultural associations, appearing sometime during phase Ib of the *Late LBK* (Czerniak 1980, 116). The houses with continuous bedding trenches for wall posts are known from phase IIIc (Brześć Kujawski site 4, Krusza Zamkowa site 3, house 318 and others) and are thought to have appeared in phase IIIb.

Moreover the east-west contacts between Kujavia and the Elbe region (*STBK* and Rössen) are also seen as an adoption by the *Late LBK* of traditional lines of contact between Mesolithic communities (Koško 1982, 36) and as a reflection of the contribution of the Mesolithic population to the directions of development of the *Late LBK* culture. This tradition of east-west relations on both the late Mesolithic and *Late LBK* fronts must surely have been of great importance in the processes which led to the appearance of the *TRB* culture, and indeed the continuity of these contacts is clearly evidenced in the early material manifestations of the *TRB* culture (see chapter 5).

The greater independence from southern models in the later stages of the *Late LBK* are archaeologically registered in the cessation of the import of raw flint materials from the south from about the



middle of the 4th millennium bc (Brześć Kujawski industry is predominantly based on local surface flint). What is interesting in this context, however, is the fact that a similar phenomenon in the *TRB* culture is not witnessed until later, in the Wiórek phase, at about 3100 bc according to Koško's chronology (see chapter 5). Both of these phenomena, as well as their apparent discrepancy, still require greater attention.

One more aspect which demands our attention is the appearance, sometime around the middle of the 4th millennium bc, of copper, especially in ornaments. With regard to the use of copper in the *Late LBK* communities both Czerniak and Koško associate it (on the basis of recent finds of burials with Cu ornaments at Krusza Zamkowa and comparisons with the Brześć Kujawski finds) with the IIIa phase of the *Late LBK* (c. 3400 bc; Bln-1811: 3380 $\pm$ 65 bc). The copper is no longer found in IIIc (the youngest Brześć Kujawski graves have none - Czerniak 1980, 89-97; Bednarczyk *et al.*, 1980, 81). The appearance of copper in the *TRB* culture is synchronous (see chapter 5). This short horizon of copper ornaments is difficult to explain. Czerniak suggests that towards the end of the *Late LBK* copper becomes less important, but the reasons for this are not known. The copper may of course represent sporadic arrivals with southern influences, but in the *Late LBK* the copper ornaments are in evidence precisely at the time when contacts with the south are weak; for example, there is no import of raw flint material.

It is interesting to note that, while the question of precise synchronisation of the earliest copper finds in Central and Northern Europe is of continuing concern (Randsborg 1970, Jażdżewski 1973), there is an obvious unwillingness among scholars to discuss the wider implications of this phenomenon. Ottaway suggests that the pattern of distribution of copper ornaments altered substantially during the Middle Neolithic - especially under the influence of the Corded Ware culture (Ottaway 1973, 318). It may therefore be possible that, towards the final stage of the Brześć Kujawski group, this process had already begun and could at least partly explain the short duration of the copper horizon in Kujavia.

With the necessary exception in the context of the late Mesolithic groups, for which some elements of agriculture and animal husbandry have been claimed, aspects pertaining to the economy and settlement patterns of the complexes described above have not been discussed. Since the study of the economy and settlement pattern of the early *TRB* culture is still at a very early stage in most areas of the culture's distribution - with the exception of Denmark - it is felt that a meaningful comparison between the above complexes and the *TRB* culture is not yet possible. Thus these problems have been left out of consideration, although some comments are offered in the following chapter.

This unfortunate state of affairs is a reflection of the particular interests and directions of research still current among many scholars interested in the development of the Neolithic in the North European Plain. Notable exceptions may be noted in Danish and Polish research in the works of Madsen (1982), Kruk (1973, 1980) and recently Bogucki (1982), and it is hoped that these will, in the not too distant future, stimulate similar interest in other regions of the North European Plain. A summary of the results of the above-mentioned researches seems superfluous in the present context and the reader is referred to the original works themselves.

## CHAPTER 5      THE FUNNEL-NECKED BEAKER CULTURE

The previous chapter was devoted to a brief discussion of cultural developments during the late 6th and 5th millennia bc. While a variety of hunter-gatherer groups continued to inhabit the greater part of the North European Plain, early farming communities, in their territorial expansion from the south, were establishing themselves along the region's southern limits. During the early 4th millennium bc, stimulated by mutual influences and a long period of contact between the two life-styles, a new complex - the *Funnel-necked beaker culture* (*Trichterbecher Kultur* - *TRB*, *Tragtbaeagerkultur*, *Kultura pucharów lejko-watych*, *Kultura nálevkovitých pohárů*) - appeared (Bakker 1979; Becker 1947, 1954a; Behrens 1959, 1960, 1973; Jażdżewski 1936a, 1961, 1965a; Mildenerberger 1953; Preuss 1966, 1980; Wiślański 1973a, 1979, Zapotocký 1958 and many others).

That this complex was of particular importance in the subsequent cultural shaping of the North European Plain is seen from its duration, widespread distribution and considerable influence within its own area and beyond. The duration of the *TRB* culture varied from as much as one and a half millennia to a few hundred years in different areas, and in its distribution it covered most of the area from the Netherlands in the west to central and southern Poland in the east, and from southern Scandinavia in the north to Bohemia and Moravia in the south (Fig. 7).

### THE ORIGINS OF THE *TRB* CULTURE

To many scholars engaged in the study of this culture the prime question has been that of its origins. This could be seen in the heated polemics each time a different theory was advanced. Although every study contributes something fresh to our understanding of the *TRB*, there are still as many theories as there are archaeologists. It is not necessary to review them all in detail; for the purpose of the present work it is proposed to look at this question in the light of the influences which

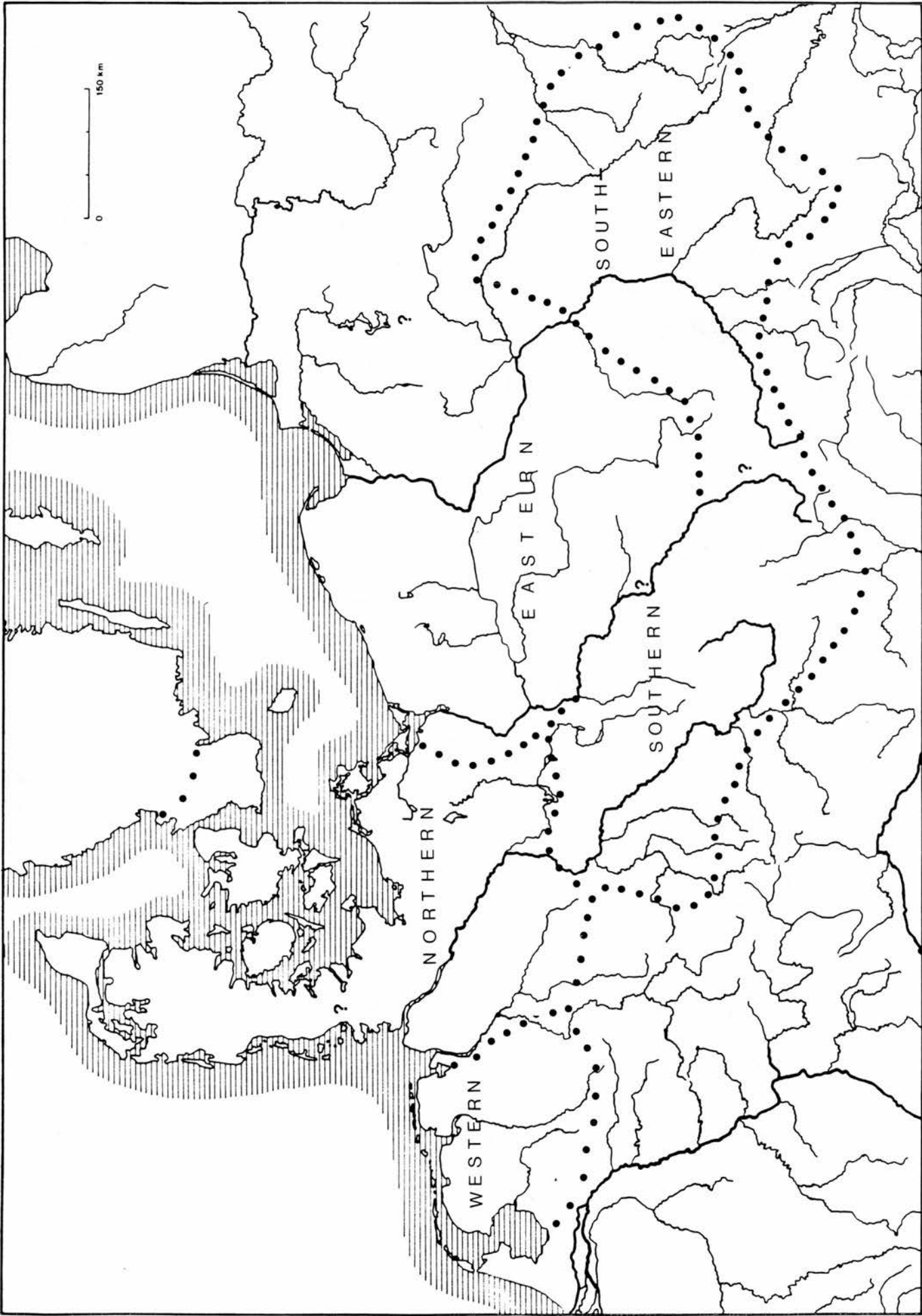


Fig. 7 Distribution of the TRB culture (after Wiślański 1979, with modifications)

have variously been claimed to constitute the *TRB*'s main character.

Influences reaching the North European Plain from the south-east were of particular importance to the researches of Behrens (1959, 1960). Following on from the ideas of Reinecke (1942) and Mildenerger (1953), Behrens sought the origins of the Baalberge group - which he considered the oldest in the *TRB* - in Bohemia and Moravia (Behrens 1960, 579 ff.). The diagnostic ceramic forms of the Baalberge, such as amphorae, handled jugs and beakers were shown by him to have prototypes in the unpainted

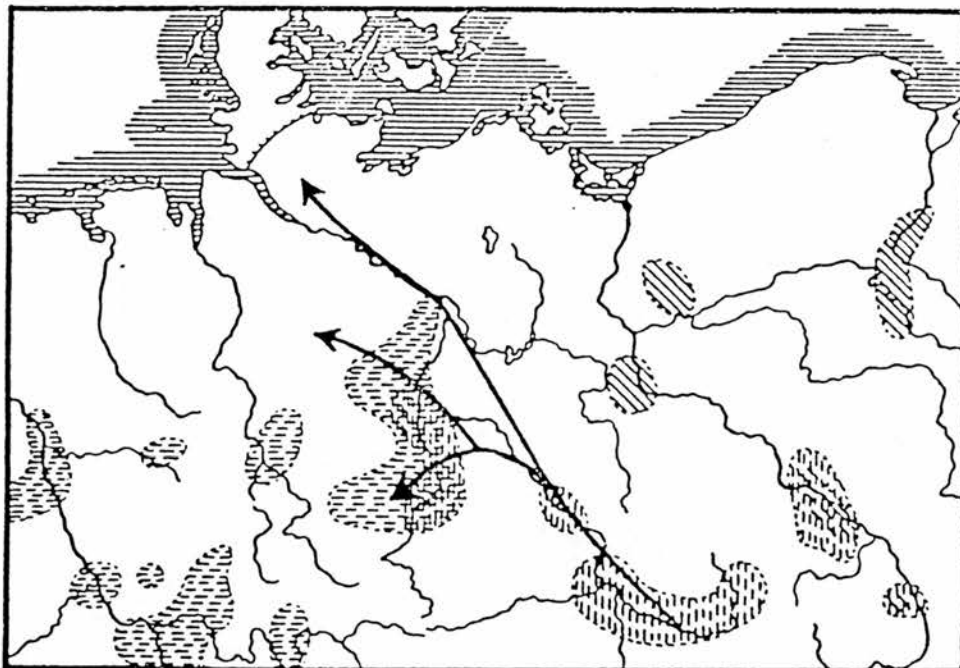





Fig. 8 The origins of the *TRB* culture suggested by Behrens (after Behrens 1959;  Rössen culture,  Lengyel culture,  Late *STBK* culture).

wares of the Moravian Lengyel culture.

On the basis of detailed but selective comparisons of the middle German Baalberge group with the Danish A-phase ceramics, Behrens suggested a 'modified middle European theory' (1959, 180). He noted substantial similarities between the northern (especially the Store Valby) and Baalberge materials, such as flat bases, beakers with elongated profiles and little or no ornamentation (Behrens 1959, 170, Fig. 1). The process

responsible for such similarities was, according to Behrens, as follows: the Baalberge group - originating in Bohemia and Moravia - spread along the Elbe to the area of the Elbe/Saale confluence, where it came into contact with the middle German Rössen culture. One branch of the Baalberge subsequently continued down the Elbe to Schleswig-Holstein and southern Scandinavia (Fig. 8).

A similar trend has been recognised by Schwabedissen. He compared funnel-necked beakers from the area east of the Elbe - Becker's A/B ceramics, which are mainly undecorated, flat-based vessels - to the Danish A-phase beakers from Store Valby (Schwabedissen 1958b, 26, Fig 18c and d; 1967, Fig.10), and further extended such comparisons to other pottery forms - bowls and lugged jugs - all of which have their counterparts among the material classified by Becker as belonging to the northern A-phase (Schwabedissen 1967, 428). According to Schwabedissen, this A-phase pottery would ultimately have had prototypes in the Lengyel culture material and, modified on the way through middle and north-eastern Germany, it reached southern Scandinavia (Schwabedissen 1967, 429, Fig. 11).

Moreover, both scholars continued such ceramic comparisons, indicating yet another - western - trend. Among the ceramic forms of the Baalberge and Danish B-phase, Behrens found little correspondence, but he pointed to similarities between the latter and various Rössen pottery forms (Behrens 1959, 173, Fig. 2). He suggested that Rössen pottery could have inspired the ornament as well as the shape of the B-phase pots. Additionally, Behrens noted numerous Rössen axes (*Breitkeile*), which have been found in the north, well beyond the limits of the Rössen culture settlement, and interpreted such finds as influences reaching the north with the Baalberge group (Behrens 1959, 177). The Baalberge group acquired, in the area of middle Germany, some Rössen elements which thus accompanied the Baalberge movement northwards (Behrens 1959, 180-181).

Schwabedissen expanded upon this idea of Rössen influences. Firstly he pointed out that, in view of recent discoveries, the distribution of the Rössen culture proper extended further north (Schwabedissen 1967, 418, Fig. 3). Many Rössen finds are now known from both the



Ertebølle-Ellerbek and from the early *TRB* culture in north-western Germany, especially in the southern part of the Jutland peninsula (Brandt 1967, Lomborg 1962). Concerning ceramic developments in the north-west German plain Schwabedissen pointed to the appearance of the so-called 'wobble-base' (*Wackelboden*) beakers (Schwabedissen 1967, 416, Fig. 5a and c) which he saw as having prototypes in the globular vessels of Rössen, although he did not rule out their typological connections with the Ertebølle-Ellerbek pointed-base pots (*Ibid.*, 420). This claim of Rössen influence was strengthened by the subsequent development of the *Tiefstich* pottery, where Rössen elements seemed to be developed in the rich ornament of the Haassel - Fuchsberg style (*Ibid.*, 421-422, Fig. 7a, 8a and c).

The contribution of the northern elements to the general character of the *TRB* has always been strongly expounded by Jażdżewski (1936a, 1961, 1965a, 1970b). In the early years of his research Jażdżewski even felt that the *TRB* had originated in the Jutland peninsula (Jażdżewski 1936a, 222), but post-war research tended against this view. Although in later years Jażdżewski often changed his opinion as to the actual location and size of the *TRB*'s 'cradle', his thoughts inevitably returned to the same direction - always away from the south, towards the north. He considered any suggestion even vaguely pointing southwards as 'ludicrous' and frequently listed all the elements of the *TRB* which could not possibly have come from the south and therefore must have belonged to the north (Jażdżewski 1961, 81).

The key argument in his theory of the importance of northern influence was the predominant use of flint as raw material for the production of small and large tools (Jażdżewski 1961, 81; 1970b, 56). Further support for this he saw in different hafting methods: cutting edge parallel to the handle in the *TRB* (Brøndsted 1957, Fig. on page 156; Wiślański 1979, Fig. 119; Jażdżewski 1970b, 56) and cutting edge perpendicular to the handle among the central European farming cultures.

Prehistoric culture is generally better documented - and thus offers greater opportunities for understanding the way in which it developed - in its fully crystallised form than in an initial phase. Yet it is the early stage that invariably holds the key information for the

original impulses and influences which, under a specific set of circumstances, came together to form a coherent cultural unit.

It is therefore necessary to pursue the theme of the origins of the *TRB* by discussing the evidence belonging to its earliest horizon. Materials of the so-called Rosenhof phase from north-western Germany (Holstein) and of the Sarnowo phase in central Poland (Kujavia) belong to the earliest stage of the *TRB*; this view finds support in stratigraphic and radiocarbon dating evidence. Other regional phases, although earliest in their respective areas, such as the Baalberge of middle Germany or EN-A and/or EN-B in Denmark, as yet lack adequate support to justify their inclusion into this early horizon; indeed, some evidence suggests that these could be later (see below). Groups in south-eastern Poland and Bohemia and Moravia are positively dated to later phases of the *TRB* and as such are not relevant for inclusion in this discussion.

At Rosenhof, east Holstein, a neolithic layer containing a mixed ceramic assemblage was found, separated from an earlier Ertebølle- Ellerbek layer by a gyttja deposit (Schwabedissen 1979a). It included characteristic A-type pottery forms, for example a four-handled amphora (Fig. 9-6) and sherds with typical *TRB* 'stamp' decoration (Fig. 9-2,3). Among the funnel-necked beakers there were some with round bases (Fig. 9-5) and flat bases (Fig. 9-4), displaying simple ornamentation under the rims. Additionally, sherds with rim decorations typical of the Michelsberg culture (Schwabedissen 1979a, Fig. 2-10) and some Ertebølle-Ellerbek forms ('lamps', Fig. 9-1) appeared. A flat-bottomed sherd showed impressions of grain, although the type of grain was not specified (Schwabedissen 1979a, 168).

This mixed assemblage has been compared by Schwabedissen with a similar material from Hude on the Dümmer lake (Schwabedissen 1979a, 171; 1979c, 215) where flat-bottomed beakers and those with pointed bases have been found (Fig. 10-1 to 5). Unfortunately stratigraphy at Hude is not reliable - the levels were too compressed - and we cannot say whether these forms belong to one level or several separate ones (Deichmüller 1963, 1965, 1969). Apparently the *TRB* sherds with 'stamp' decoration and the funnel-necked beakers were found in the upper part of this





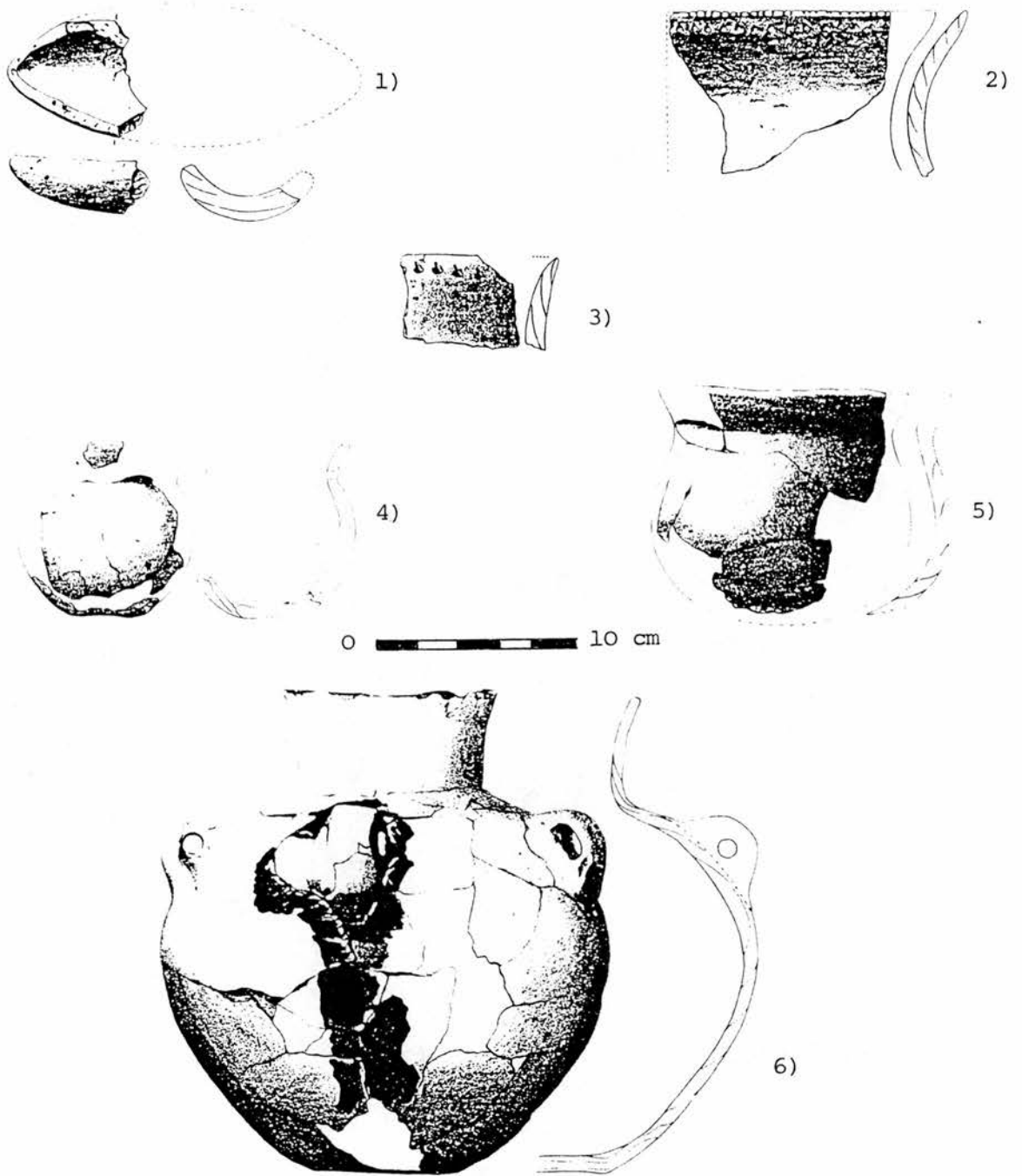


Fig. 9 *TRB* pottery from Rosenhof (after Schwabedissen 1979a)

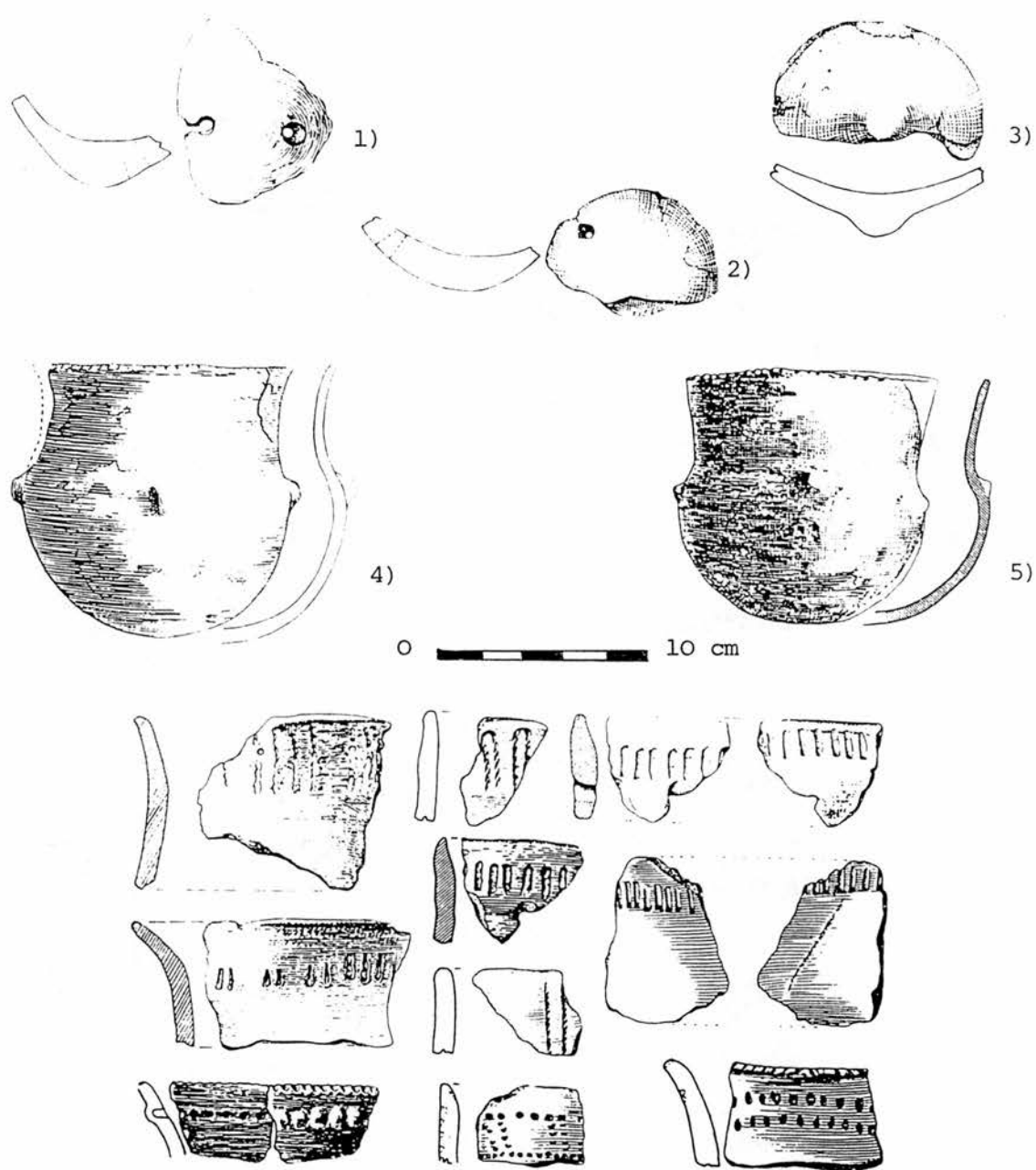


Fig. 10 Mixed pottery assemblage from Húde on the Dümmer  
(after Deichmüller 1965)

layer (Deichmüller 1965, 17) and there are slight indications that the material could represent a horizon comparable to Rosenhof (Schwabedissen 1979a; 1979c, Fig. 9). Boberg, near Hamburg, produced pottery which likewise could be compared with the above mentioned material, here in close connection with Rössen types (Schindler 1961; Schwabedissen 1979c, 212). Stray finds from the north German moors are more difficult to classify. Typological and stylistic comparisons would allow us to include here finds from Alsensund, Deilmissen, Engern-Brinkhof or Eimer (Schwabedissen 1958b, Figs. 15 and 16), yet their interpretative value is substantially reduced by their lack of context.

In the valleys of the Vistula and Odra rivers scholars recognise the earliest development of the *TRB* culture in the material of the Sarnowo phase (Chmielewski 1952; Gabałówna 1970a, 1971; Jażdżewski 1961, 1965a, Wiślański 1973a, 1979). The criteria for identifying this early stage are based upon stratigraphy (cultural layers underneath barrows KUJ - 32/4 and 32/8; Chmielewski 1952, 63, 68; Gabałówna 1968b, footnote 2; 1969b, 45-47) as well as upon the typological development of the ceramic forms (Gabałówna 1969a, 51; 1970a, 81).

Material belonging to this phase has been found mainly in Kujavia, at a few settlement sites - Sarnowo 1A (Gabałówna 1969a, 54; 1969b, 51), Łącko (Kośko 1982, 41) - and from surface finds as well as in the 'votive' bog deposits (Jażdżewski 1936a, 194, Fig. 190). Pottery constitutes the main element of material culture and diagnostic forms include funnel-necked beakers, two- or four-handled amphorae, flasks, bowls and flat baking plates (Fig. 13). The ornament is scarce, in the main limited to 'stamp' impressions under the rims of beakers and plates, and occasionally 'strokes' covering larger surfaces.

The existence of such an early phase was hinted at in 1952 after a cultural layer was found, sealed underneath one of the barrows at Sarnowo (Chmielewski 1952, 23-24, 63, 68; KUJ - 32/4). The pottery from this layer was different from all other material hitherto known. The only ornament was in the form of 'stamp' impressions; such was noted under the rim of a complete, irregularly shaped funnel-necked beaker (Chmielewski 1952, Fig. 5).

This ceramic assemblage is identical with material found at two

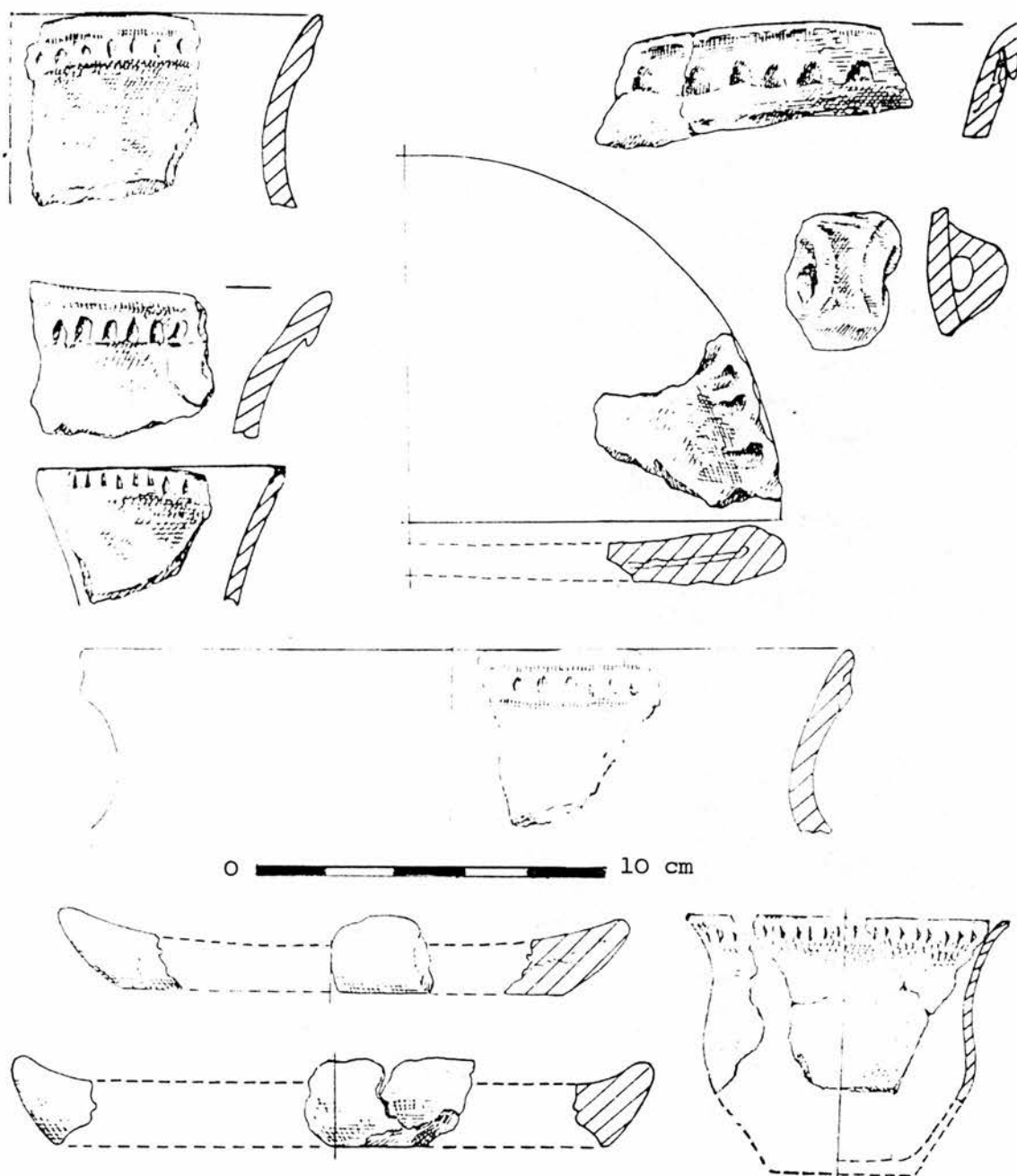


Fig. 11 Pottery from the cultural layer underneath Sarnowo barrow, KUJ 32/8 (after Wiklak 1982)

more locations at Sarnowo. Beneath a long barrow (KUJ- 32/8) a similar cultural layer - this time clearly stratified beneath the central grave - was found to contain pottery of the same type, with similar ornamentation Gabałówna 1969b, Wiklak 1982; Fig. 11). At a distance of about 65m to the north of the long barrow cemetery a settlement site together with flat graves was found (Sarnowo 1A), where again ceramic material was closely comparable to that mentioned above (Gabałówna 1969b, Fig. 6). Similar pottery forms and ornamentation have also been noted by Koško



Fig. 12 Beaker-like vessel found next to one of the Sarnowo long barrows (KUJ - 32/8; from Gabałówna 1968b).

at the *TRB* settlement site at Łącko, distr. Włocławek (Koško 1982, 41; Domańska and Koško 1974, footnote 6).

Gabałówna has convincingly argued for the inclusion of this material in the earliest phase on the basis of the coil technique, with less ornamentation and less attention to shape (Gabałówna 1968b, 137; 1969b, 46). A small vessel - beaker-like but quite primitive in form - also came to light from the above-mentioned long barrow (Fig. 12). This pot, apart from revealing *TRB* traits - a row of 'stamp' impressions under the rim - also clearly showed Lengyel influences in the shape of the vessel and four, possibly five, applied protrusions. Some copper fragments were also found in the cultural layer under this barrow (Gabałówna 1968b, 136).

In discussing the earliest pottery from the eastern group of the *TRB* culture we must consider briefly the most recent work in this

field, carried out by an archaeological team from Poznań University on the Neolithic cultural complexes in Kujavia. This research is based mainly on the comparative study of pottery of different groups and its aim has been to provide a model for a relative chronology based on 'technological dating' in contrast to the 'traditional stylistic dating' (Czerniak and Kośko 1980a, 247).

On the basis of extremely detailed macro- and microscopic analysis of the technology of ceramic assemblages, the Neolithic complexes have been divided into internal typological sequences - in the case of the *TRB*, slightly differently from the traditional scheme - into phases I-V (Kośko 1981, Fig. 9). The various technological schemes were compared with one another and the results suggest to Kośko that technologically there are close similarities between the pottery of the *LBK* and *Late LBK* (Ia) and that of the *TRB* (Kośko 1980, 125). From this the conclusion is drawn (partly supported by the internal divisions of the *TRB* and radiocarbon determinations - see below) that the above-mentioned ceramic complexes were contemporaneous.

Furthermore, stylistic correspondences - for example the adoption of 'stroke' ornament or the typological evolution of the amphorae - are outlined. Such co-development is also suggested by Kośko for the subsequent phases of the *TRB* (Czerniak and Kośko 1980b). Their results suggest so far that the *TRB* and *Late LBK* cultures were in close contact, at least as far as certain ceramic developments are concerned, and were changing technologically and stylistically according to a rhythm common to both. The above schema has been suggested for the area of Kujavia only, although generalisations about the establishment of Neolithic cultures throughout the rest of the North European Plain have also been made on the basis of the above model (Kośko 1980, 131-132; Czerniak and Kośko 1980b).

The evidence from the early phase of the *TRB*, although obviously still fragmentary, indicates that the origins of the *TRB* were complex. As we review the earlier theories of its origins (see above) we note that their main drawbacks stem either from a simplistic theoretical approach or from methodological inadequacy. Two general concepts of culture origins have been applied - those of diffusion and acculturation.

The former was based on the assumption that a fundamental *TRB* group had formed in a geographically limited and culturally defined area, and from there it had spread out over the whole area of the *TRB*'s known distribution. Three stages of such a process were assumed: a uniform development in a specific area, territorial expansion associated with differentiation, and finally the appearance of different cultures (Tabaczynski 1970, 283-291, including criticism). In practice only the latter two hypothetical stages were observed in archaeological evidence.

Thus Behrens considered the origins of the Baalberge group to be outside the area of its main distribution (the Elbe/Saale confluence), in Moravia and Bohemia (Behrens 1959, 1960), where *TRB* material is scarce and rather poorly understood and where it most probably does not represent a horizon comparable to that of early developments further north. Although he distinguished two different trends reaching the north - *epi-Lengyel* and *Rössen* - he suggested that they came together in one region (the Elbe/Saale) and then moved northwards (retaining their own identity?), rather than allowing each its own spatial and temporal position.

Among the early north-west German materials we can identify trends which clearly point eastwards: the flat bases of some beaker-like vessels found at Húde, Rosenhof and Boberg or among many vessels from surface collections (Deichmüller 1965; Schwabedissen 1958b, 1979c). Whether we should describe them as 'Baalberge', i.e. of Baalberge origin, as most researchers do, is however arguable. On the one hand, in view of the present chronology of the *TRB* (see below), it is not plausible to attribute very early influences to the Baalberge group. On the other hand, further to the east, in the Odra and Vistula valleys, we have the well established ceramic style of Sarnowo which could have provided some inspiration (for example in shapes and typical 'stamp' ornament). The problem lies in bridging the gap between the lower Elbe and Odra rivers. So far the areas of Mecklenburg and Brandenburg have shown very little early material (cf., Berlin-Britz, Dorka 1961; Preuss 1966, 103) unless of course we postulate some contact along the Baltic coast rather than overland. This could help to account for the markedly eastern distribution of the A-type pottery in Jutland and on the Danish islands but is complicated by the apparent lack of this early material on, for example, Rügen or along the Mecklenburg coast.



Becker, similarly, was unwilling to look into the *TRB* itself for explanations of its origins which, he wrote,

"...must lie more southeast than the Danubian cultures, for we must quite ignore independent developments in Northern Europe on the background of Mesolithic hunter cultures"  
(sic; Becker 1947, XVI).

This suggestion took him to the Ukraine, an area with which he was not familiar and from where no cultural material akin to the *TRB* was known (the latter being confirmed by the researches of Russian archaeologists; Jażdżewski 1961,80). Moreover, although he insisted upon the chronological priority of the A-phase material over the B-phase for Denmark, at the same time he assumed material from the continent which was similar to both to be from a single A/B phase.

Becker's typochronology and theory of outside origins have been variously criticised. Troels-Smith argued for local (i.e. Danish) origins of the *TRB* out of the Ertebølle-Ellerbek in his Muldbjerg I phase (Troels-Smith 1967,523). His arguments, however, are of little relevance here, since the economic model of the *TRB*'s development proposed by Troels-Smith is based entirely on local development and ignores developments outside Denmark. Other arguments voiced against Becker's early Danish *TRB* scheme are based on a lack of stratigraphy and a criticism of his typological criteria (Hinsch 1955). At present, moreover, radiocarbon dating (see below) does not support Becker's scheme and in fact suggests evidence to the contrary (Skaarup 1975).

Returning to our discussion of the early material from the north-western part of Germany, we noted, apart from the eastern influences, those of a more western provenance. Rössen elements have been pointed out in all assemblages - 'wobble' bases and round bases at Hüde and Rosenhof (Deichmüller 1965; Schwabedissen 1979a, 1979c); indented rims, 'stroke' ornament under rims (could this motif have developed independently?) at Boberg, here with a typical Rössen vessel (Schindler 1961). Moreover, Michelsberg-like traits - pointed bases, rim decoration, tall beakers - have all been found in the north German material (Schwabedissen 1958b, 1967, 1979c). The latter have also been noted as influential in the Danish B-phase and A-phase pottery! Some vessels, such as a tall beaker from Store Valby (Becker 1954b, Fig.19), have on various occasions

been compared to western, i.e. Michelsberg (Schwabedissen 1958b, 23, Fig.18), or eastern forms (Schwabedissen 1967, 428, Fig. 10).

In view of our present knowledge of the early material we can accept that, at least in the north-western distribution area, the eastern and western influences seem to be at work simultaneously. This contemporaneity of the two styles has already been pointed out in respect of the subsequent Satrup phase (Wiślański 1973a, 95; 1979, 171). It may be possible to push it even further back, to the Rosenhof - Sarnowo horizon. The ceramic assemblages described above show that there were *multiple* influences at work ( as indeed they would continue to be throughout the whole development of the culture). It is not possible to derive them all from one geographical area, and even less so from one cultural unit.

We can draw similar conclusions by looking at the flint and stone tools of the *TRB*, although their value in revealing the directions of influence, or indeed the patterns of development, of these technologies is limited in view of the current neglect of lithic studies in favour of ceramic assemblages.

Digressing momentarily from the main theme of this section, we should note that, with the exception of eastern and south-eastern groups, no detailed studies on the flint or stone technology of the *TRB* culture are available. Our knowledge of sources of raw materials is limited, there is little information on the function and ancestry of various tools, and many publications either include only the most characteristic types, or are presented in a form which does not facilitate chronological and cultural analysis. And yet, as the researches of Polish scholars suggest, a systematic study of flint technology (including the exploitation and processing of raw materials) can provide the basis for a broader interpretation of techno-organisational, social, economic , cultural and chronological problems (Balcer 1980).

The predominant use in the *TRB* of flint rather than stone has been used as an argument for the northern (non-*LBK*) derivation of the *TRB* (Jażdżewski 1970b). But, as has been noted earlier, with the exception of axe production flint was commonly used by the *LBK* and *Late LBK* communities. Recent assessment of evidence from the Cracow Uplands and

other regions suggests that these people were experienced in both the mining and the processing of flint (Lech 1981a). On the other hand, stone raw materials such as amphibolite, basalt, granite and others, were exploited by the *TRB* groups, as can be seen in a variety of hammer-axes (Jażdżewski 1936a, Prinke and Skoczylas 1980); stone axes are also known in the Baalberge assemblages (Behrens 1973, 192-193).

Perhaps we should consider the distinction between the stone-using *LBK* and the flint-using *TRB* more as an academic distinction than as a reflection of reality. It could imply functional rather than cultural differences between the two complexes. Similarly, the availability of raw material (which as we noted earlier was seriously disturbed during the *Late LBK*) would account for differences in the use of flint and the types of tools produced.

In Kujavia, 'chocolate' flint from the Świętokrzyskie (Holy Cross) Mountains played an important part during the early stages of the *TRB* (Balcer 1981a, 60; Wiślański 1979, 221). This type of flint was also extensively exploited by the Mesolithic people (Więckowska 1975) and by the *LBK* groups in Kujavia (Lech 1981a, 224, Map 6). Other *LBK* groups depended in general upon flint from the Jurassic deposits of the Cracow Uplands (for example at Sąspów, Bębno or Jerzmianowice; Lech 1981a, 43). Whether the *LBK* and *TRB* communities in Kujavia had direct access to the 'chocolate' flint deposits or relied upon Mesolithic 'middlemen' is difficult to assess. As already mentioned, *LBK* communities did exploit 'chocolate' flint resources at Tomaszów (Schild 1976). Some researchers argue for direct contacts with Kujavia (Lech and Młynarczyk 1981, 12) on the basis of a similar use of raw material and correspondence between tool types, and also for a close relationship between the *LBK* and *TRB* flint industries (*Ibid.*, 16; Młynarczyk 1976).

On the other hand the tradition of flint-working among the Mesolithic communities of the North European Plain reaches far back in time and has also been claimed to contribute substantially to the development of the flint industry of the *TRB* (Jażdżewski 1970b; Niesiołowska-Sredniowska 1981, 1982). Similarities between the two have been pointed out, both in the flint-working technique and in certain types of tools.

It is beyond our scope to pursue these arguments here in detail.

What does, however, appear striking in the early *TRB* flint inventories is the multiplicity and variety of influences, both of Mesolithic and *LBK* derivation, and it is this combination which to a great extent must be responsible for the development of the *TRB* flint industry. Indeed this pattern is entirely in keeping with the developments already outlined in the field of ceramics and yet again underlines the mixed character of the *TRB* culture.

The adoption and development of the axe within the *TRB* culture still remains to be explained satisfactorily. Two types of flint axe are known - thin-butted and thick-butted - and these are, generally, exclusive of one another in their distribution. The thin-butted form is dominant in the north (Becker 1957, Brøndsted 1957, Jażdżewski 1970b, Sprockhoff 1926) and its distribution corresponds in general to that of the northern group of the *TRB*. In the eastern and south-eastern groups the characteristic type is the thick-butted axe (Jażdżewski 1936a, Wiślański 1979); thin-butted forms are known only in a few isolated examples (Jażdżewski 1970b, 59; Siuchniński 1972, 86-89). Forms associated with the southern, Baalberge group are least well known; they seem to include various kinds of stone and flint axes (Behrens 1973, 75).

The origin of the thin-butted axe is usually traced to the earlier local tradition of the Ertebølle-Ellerbek core-axe and it must represent an important local contribution in the area of the northern group (Salomonsson 1970, Schwabedissen 1967), although the possibility of influences from further west should be borne in mind. The thick-butted axe is seen as a creative adaptation of southern (*LBK*) forms to available raw materials and specific, lowland environmental conditions (Lech and Młynarczyk 1981, 26), possibly even with a Tripolye influence resulting from the exploitation of the Volhynian flint resources (Balcer 1981b).

Yet it is not so much the difference in the form of the axes (which supports the idea of the importance of local influences within the *TRB*), but the precise moment of their appearance that is difficult to explain. In the eastern group (one of the earliest) axes are not known from the early phases (Sarnowo -Pikutkowo; but note that at the Sarnowo settlement site a small stone axe typical of the *LBK* was found; Gabałówna 1970a, 87); they are not found in otherwise rich flint assembla-

ges either in the settlements or in barrows. They appear in the Wiórek phase and this is associated with such important phenomena as a substantial change in the exploitation of flint resources, an expansion of *TRB* settlement and major socio-economic changes (see below).

Furthermore, chronological evidence suggests that the two types - thin-butted and thick-butted - appear more or less simultaneously towards the end of the 4th millennium bc (see chronology section). It is precisely this fact that is difficult to explain. An hypothesis that the early *TRB* people were not familiar with the use of the axe (Jankowska 1980, 67) is difficult to accept - a problem which is of course directly associated with the unsatisfactory explanations of the function of this tool. How did the exploitation of the forested environment take place without the axe? Could this fact be reconciled with evidence of the economic activities associated with the early phases, as in the clearances at Sarnowo and Rosenhof? Should we perhaps reconsider our interpretation of the 'southern forms' which are found over the whole of the North European Plain? Tools characteristic of the early farmers such as *Schuhleistenkeile* or *Breitkeile* have been found quite far north in the area of the *TRB*'s distribution, well beyond the limits of the early settlers (Brandt 1967, Lomborg 1962, Schwabedissen 1967). Axes of what is generally considered to be Silesian amphibolite have, for example, been found along the eastern coast of Jutland and on the Danish islands (Fischer A. 1982, Fig. 3; Lomborg 1962; but note the researches of Bakels and Arps in the Netherlands suggesting the use of local amphibolite sources, Phillips 1980, 169). Rössen *Breitkeile* are widely distributed in the north German Plain (Schwabedissen 1967, Fig. 2b) as well as *Scheibenbeile*; an example from Rosenhof is quoted by Schwabedissen (1979a, 171) and, as already mentioned above, a similar *LBK* axe is associated with finds at Sarnowo.

Do we interpret such finds as 'strays' from the area of the *LBK* settlement (they are often found without any context) or could these have been used by the early *TRB* groups as a result of an exchange of commodities or some other means of acquisition? On the other hand we must also try to understand better the economic and social changes in



the *TRB* which perhaps led to the widespread adoption of the axe towards the end of the 4th millennium bc over the whole of the culture. Such problems unfortunately cannot be pursued any further in this work, but they clearly suggest that we should pay more attention to the study of the lithic industries in their cultural and economic contexts before we may embark upon realistic interpretations.

However, the appearance of different forms of axe - thin- and thick-butted - would to some extent support the suggestion of local influences which were at work during this period. Other flint tools also seem to support such an interpretation. The northern industries show traces of local Mesolithic tradition - trapezes and a variety of microliths (Balcer 1981a, 69)- and macrolithic elements, such as long blades and large axes, appear only in the younger *TRB* (Ebbesen 1975). Thus, although the flint industry still demands more attention and systematic study, the evidence at present available suggests that in the formative period of the *TRB* multiple influences were at work, with Mesolithic and *LBK* traditions both contributing their elements, the intensity of these influences naturally varying from region to region.

Examination of the early phase of the *TRB* makes it quite clear that it is not possible to explain the origins of this culture-complex in terms of a diffusion from a single source. How else should this problem then be approached? Fischer argued that cultures have ancestors in older units (and descendants in younger) and that one should not attempt to search for the origins of any culture outside the area of its distribution (1961, 425). A theoretical model which attempts to take this into account is that of acculturation, which also found an application in the study of the *TRB*. The acculturation theory (as understood by Clarke, 1978a, 320-323) suggests a more complex process of cultural transformation rather than the single-source approach. It involves the interrelation of local and outside factors and their simultaneous transformation resulting from mutual influences. Although diffusion is one of the mechanisms involved, the whole process is understood in terms of the dynamics of social, economic and cultural changes in the area where two complexes come into contact.

The main exponents of this approach to the problem of the ori-

gins of the *TRB* are currently Jażdżewski and Wiślański. According to Jażdżewski the *TRB* appeared in the area

"...lying to the north of the northern periphery of the older Danubian cultures, alongside the southern and western coasts of the Baltic, in northern Germany and in Denmark, and perhaps in north-western Poland as well"

(Jażdżewski 1965a, 79).

Such an area does not coincide with the distribution of the earliest *TRB* material as we know it at present, but the main criticism of Jażdżewski's approach is that it smacks of concealing the 'single-source' theory (admittedly in a geographically expanded version) under the cloak of 'acculturation'. Moreover the process of such a development is only seen as a transformation in one direction - from Mesolithic to *TRB* - and not specified beyond a general influence of existing farming groups. Indeed, with the exception of north-western Germany, areas suggested by Jażdżewski (1965a) are no longer prime contenders for intensive contacts.

On the other hand the approach of Wiślański suggests that similar, more or less parallel processes were taking place over the whole of the European lowland (Wiślański 1973a, 1979). Recently he proposed a minimum of five potential genetic centres which correspond to the regional groups of the *TRB* (Fig. 7). The western centre includes the Netherlands and the area around Hanover, which was the source of *Tiefstich* pottery and is thus considerably later than other groups (Bakker 1979). The northern centre includes southern Scandinavia and Mecklenburg, and it arose through the mixing of western and eastern elements. The eastern centre consists of the areas of Kujavia, the lower Odra and lower Silesia. The south-eastern centre (Little Poland) had close connections with the eastern group. The southern centre includes areas around the middle and upper Elbe. The developments around the upper Odra and in Moravia are the least clear - these have been variously connected with eastern, south-eastern and southern groups - but may also have had their own local sources (Wiślański 1979, 169).

Although this scheme is acceptable in its general outline, it needs to be modified in view of what has been discussed earlier. The developments in the northern centre would appear not to be synchronous throughout the whole area. In the southern region (Schleswig-Holstein)



and Lower Saxony) we perceive the emergence of the *TRB* earlier than in Denmark. At present this is supported not only by chronological indicators (see below) but equally by the development of the ceramic styles. The two styles (A and B) are found in Denmark contemporaneously (Tauber 1972), in well developed form, and do not display such a mixed character. It would appear that they evolved in the southern part of the Jutland peninsula through contacts between elements from east and west, and only after a certain period arrived further north. It is possible, however, that additional contacts, more directly related to the eastern and western sources, could have played a part.

If, as suggested by Koško, we accept the parallel and rhythmical development of the *TRB* and *Late LBK* ceramic materials (Koško 1980, Czerniak and Koško 1980b) the evidence available to date would support the acculturation theory for the area of central Poland. Similarities between the pottery of the *TRB* and, for example, that of the Brześć Kujawski Lengyel group have been quoted enough (Gabałówna 1968b, Fig. 1; 1970a, 81; Wiślański 1973a, 1979, 177). Generally these comparisons have involved individual elements, such as ornamental motifs or specific shapes, but they were noted not only in the earliest phase but in later developments as well. It has to be said, however, that such comparisons cannot be extended to complete assemblages, as each complex also includes elements alien to the other. The model suggested by Kosko would explain the mutual influence of style (his suggested development of amphorae; Czerniak and Koško 1980b) but this chronology is still largely hypothetical and requires verification.

Extending Koško's model, we could suggest that a similar process was responsible for developments in the north-western part of the European Plain. We could thus postulate the development of the *TRB* out of the Rössen and Ertebølle-Ellebek cultures with a noticeable predominance of the former. Moreover, if we accept that the Rössen culture played a formative role in the appearance of the Michelsberg culture (c. 3500 bc; Lanting and Mook 1977, 64), the similarities between the Michelsberg and the *TRB* could be explained in terms of a common inspirational source as well as of a parallel development in adjacent territories. The fact that western influences do not seem to be expres-

sed strongly in the east of the *TRB*'s distribution area would support this further.

Concluding our discussion of the origins of the *TRB* culture we may once again emphasize the fact that this culture was not uniform but, from its very beginning, was a widespread and internally differentiated phenomenon. This diversity is mainly apparent in ceramic styles but we also begin to recognise it in other elements of the material culture. Too little is known as yet about the economy of the early phase, but implications exist (see below) which suggest differences here as well.

At the same time the unifying processes must have been strong enough to allow us to consider these early manifestations as belonging to one cultural complex. Differentiation factors are most probably related to the geographical conditions of the European lowland, the position of the river systems and the sheer vastness of the area. Moreover, the late Mesolithic occupants of different regions did not provide a uniform background and neither did the various *Late LBK* groups at the southern edge of the North European Plain. Although the adoption of a farming economy and its adaptation to the lowland environment proceeded along a broad front this process need not have been uniform, nor necessarily synchronous, in all areas concerned.

One of the major unifying factors must have been the contact between two diametrically opposed economic and social systems - that of the generally mobile hunter-gatherer and that of the settled farmer. A further unifying element can be seen in the fact that, by the beginning of the 4th millennium bc, the *Late LBK* cultures had reached the limits of viability of the "Danubian" economic model and had themselves begun to adapt to a wider environment. This is already evidenced in the expansion of the Rössen, *STBK* and *Late LBK* settlement out of the loess uplands and into a less fertile but more varied landscape.

#### THE CHRONOLOGY OF THE *TRB* CULTURE

It is only within the last decade that C-14 determinations from *TRB* culture contexts have become sufficiently numerous to suggest that independent chronological ordering of events in different regions may soon be possible. For a long time, however, scholars have relied predominantly upon typological comparisons between ceramic assemblages from the different *TRB* groups and tried to order the developments apparent in their own areas according to sequences worked out elsewhere. Ironical though it may seem, the main problems in the chronological ordering of the *TRB* stem from the fact that Danish archaeologists have for years been ahead in their study of this culture (Becker 1947, 1954a, 1954b, 1967; Ebbesen 1975; Mathiassen 1940; Skaarup 1973, 1975). Consequently, all other scholars have tried to assess evidence in their regions in terms of typo-chronologies worked out in Denmark, and general overall chronological schemes were produced in which materials from widely distant regions were placed in the same chronological horizons - for example the pan-European A/B horizon (Behrens 1959, 1960, 1961; Jążdżewski 1961, 1965a, 1970b; Wiślański 1973a, 1979 and others).

Today, however, there is sufficient evidence to justify regarding the development of the *TRB* in Denmark not only as later (see below) but also as following a different course. Moreover, as has been outlined in the previous section, the appearance of the *TRB* culture is not synchronous in all areas of its distribution. Thus an overall chronological scheme - encompassing all *TRB* groups - would not be sufficiently flexible to account for individual, temporally different local developments. In order that we should avoid oversimplification of a complex pattern of culturally related yet temporally varying developments, it is thus proposed to concentrate here upon reviewing regional chronologies. These offer a more acceptable framework for ordering evidence within different groups of the *TRB*, since they take into account the historical development of the culture in each region and prevent the paucity of evidence from some areas imposing its problems on others. Thus the following section discusses the evidence for regional schemes; concordance in inter-regional developments is noted where such may be evidenced but there is no attempt to develop it into a new overall scheme for the

whole *TRB* culture. Such an all-embracing framework cannot as yet be established.

The typological sequence of the *TRB* culture in Kujavia comprises four phases: Sarnowo, Pikutkowo, Wiórek and Luboń (Wiślański 1979, 175-97). The distinction between the Sarnowo and Pikutkowo phases is based upon the ceramic simplicity of the former and stratigraphic evidence from the earthen long barrow cemetery at Sarnowo (see above). The division between the Pikutkowo and Wiórek phases is however dependent only upon stylistic criteria, in particular the development of ornamental motifs (Chmielewski 1952; Gabałówna 1970a, 1971; Wiślański 1979).

Ceramic assemblages attributable to the Pikutkowo phase are known from settlement sites, for example Sierakowo and Pikutkowo (Kośko and Prinke 1977, Niesiołowska 1967) and it also seems likely that the majority of the earthen long barrows were built at this time (Gabałówna 1970a, 1971; Kośko 1982). Intermediate forms between the early (Sarnowo) and later (Wiórek) phases have been noted by Chmielewski (cf. amphora from Sarnowo, KUJ - 32/2, grave 1; Chmielewski 1952, 22, Fig. 3), and the publication of the pre-war excavations of a settlement site at Pikutkowo further drew attention to some forms revealing typological connections with both Sarnowo and Wiórek (Niesiołowska 1967, Gabałówna 1971).

The characteristic Pikutkowo forms do however show sharper profiles than those of Sarnowo and there is a clearer distinction between the composite parts of the vessels (necks, bellies and shoulders; Fig. 14, compare with Fig. 13). A new ceramic form is represented in the appearance of a collared flask (Chmielewski 1952, Gabałówna 1971). Ornamentation is more varied than in the preceding phase - 'ladder' motifs, chevrons and grooves appear. Handles are added to beakers and amphorae - under rim or on shoulder. Amphorae in particular display 'ladder' ornament which appears on the neck and upper part of the belly. Sometimes the cavities in the ornamentation are filled with white paste.

In the Wiórek phase, which likewise is known from a number of sites (Radziejów Kujawski and Zarębów in Kujavia, Ćmielów and Gródek Nadbużny in Little Poland), all previous ceramic forms continue in use (Fig. 15). Beakers and amphorae still remain dominant; beakers are

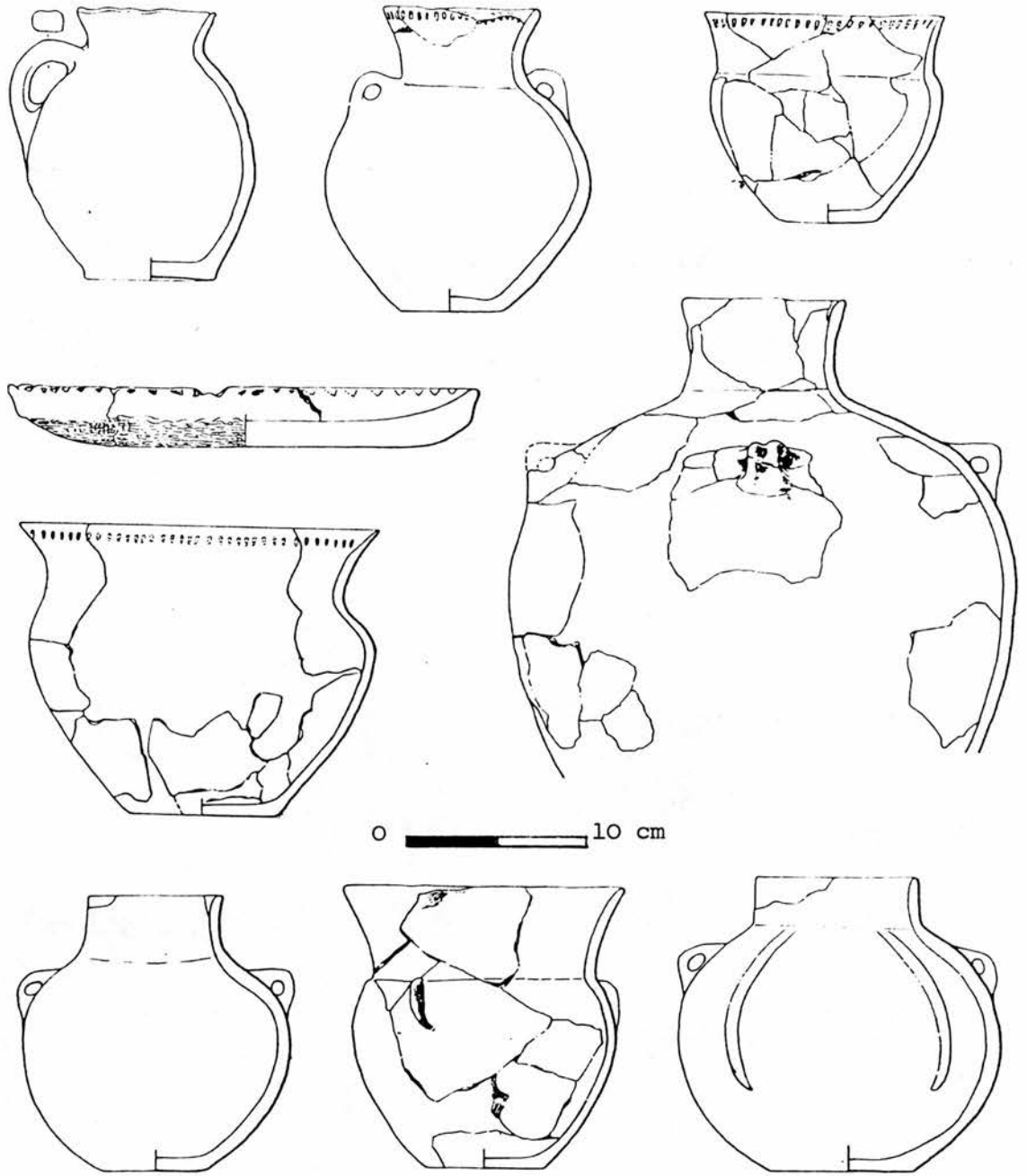


Fig. 13 Sarnowo phase pottery (after Wiślański 1979)

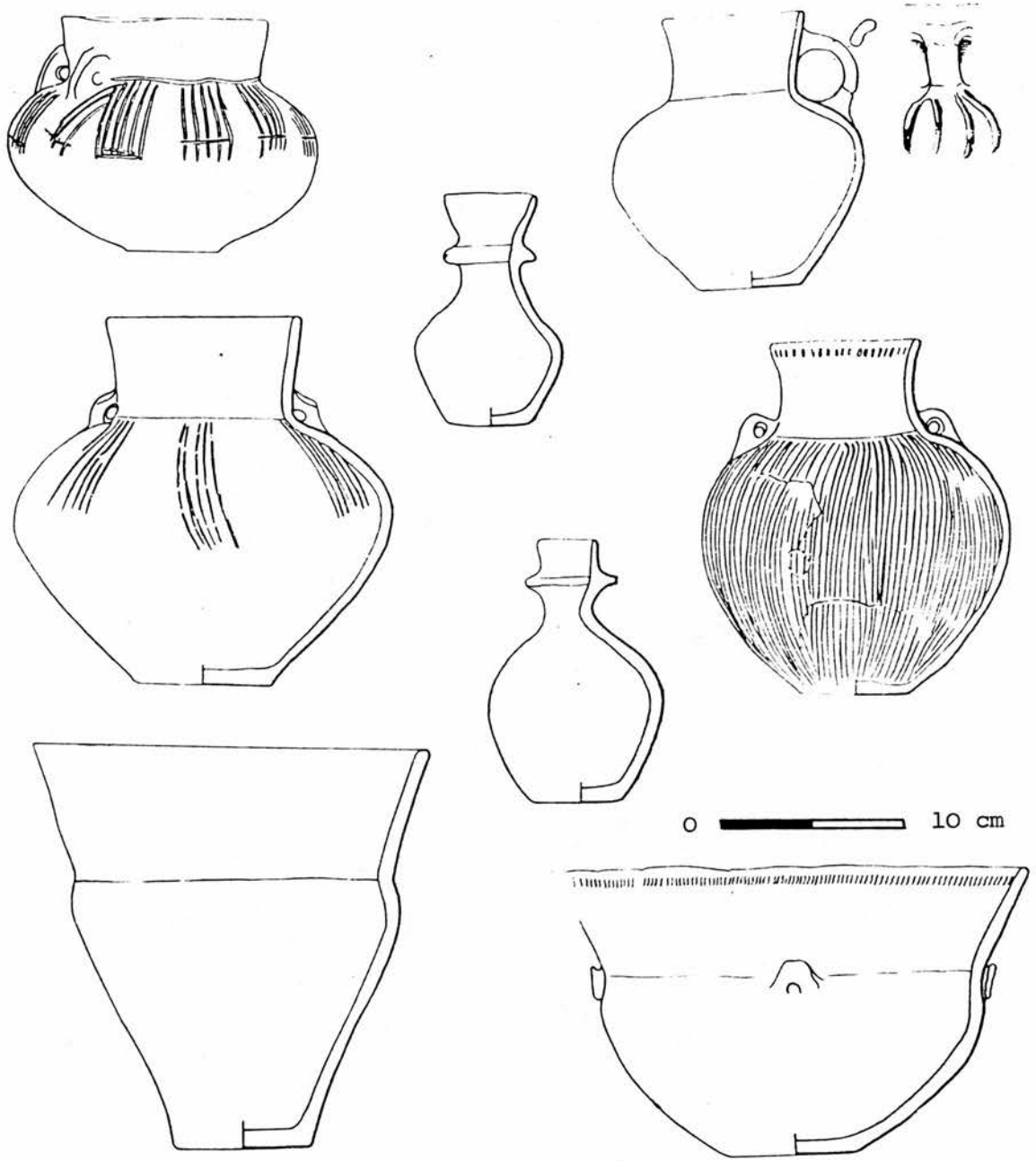


Fig. 14 Pikutkowo phase pottery (after Wiślański 1979)

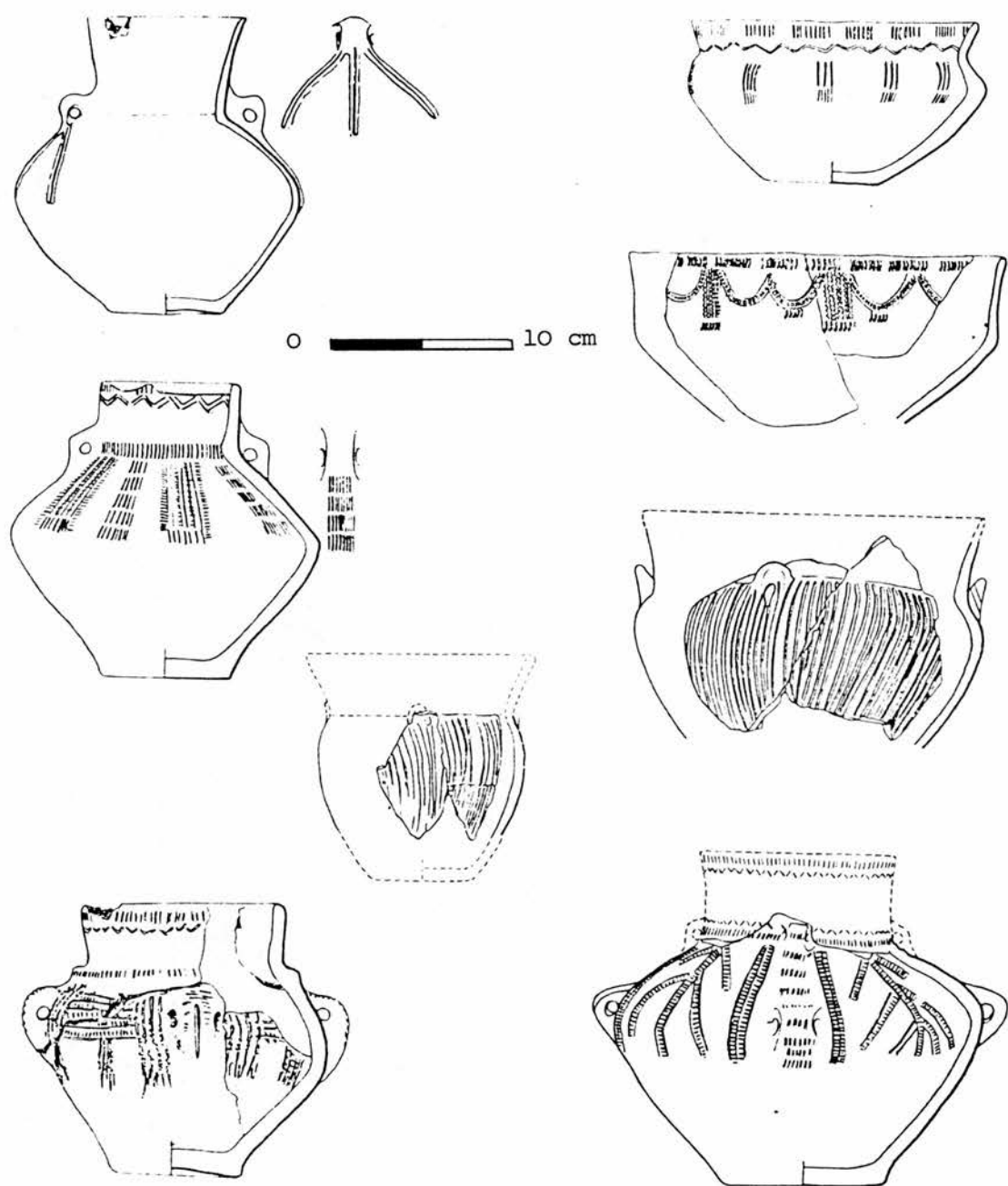


Fig. 15      Wiórek phase pottery (after Wiślański 1979)



either tall with long necks or small and bowl-like in form. Several types of amphorae have been distinguished and other forms include a variety of bowls, some wide-mouthed, others with sharp carinations. There are also jugs and collared flasks; new forms are represented by drums and *ansa lunata* pots (Wiślański 1979, Figs. 98 and 100). Ornamentation likewise represents a development of earlier motifs. Decoration is executed in a variety of techniques - 'stamps', 'strokes' and grooves - and it covers a substantial part of the surface of the vessels. Zig-zag lines frequently underline rows of 'stamps', there are triangular hatchings and complex 'ladder' motifs.

During the early Wiórek phase, or perhaps even towards the end of the Pikutkowo, we note an extension of the *TRB* from Kujavia to the south-east and south (Wiślański 1979, 190). The stylistic character of pottery from Little Poland is closely affiliated, in terms of form and decoration, to ceramics from Kujavia. The transition from Wiórek to Luboń phase (the latter representing the final stages of the *TRB* and of no importance in the context of this work) cannot be viewed in terms of stylistic evolution. It represents a substantial break from the earlier ceramic development and already reveals the influence of subsequent cultural groups.

The absolute chronology of the eastern group of the *TRB* culture is more difficult to establish. The few C-14 dates available refer mainly to the later stages of the culture and scholars have of necessity tended to rely upon supplementary evidence from other areas. Two diverse absolute chronologies have recently been suggested for the eastern group (Kośko 1980, 1981; Wiślański 1979). Before we review these, however, some comment on the controversy surrounding the C-14 date from Sarnowo is necessary. This date, GrN-5035: 5570 $\pm$ 60 bp or 3620 $\pm$ 60 bc (Bakker *et.al.*, 1969, 7; Gabałówna 1970a, 77) has generally been considered too old. Bakker felt it ought to have been at least 200 radiocarbon years younger (*Ibid.*, 213) and Lanting and Mook ignored it on the grounds that it was "...unacceptably old in comparison with other dates" (Lanting and Mook 1977, 73). This argument, however, is without justification since we cannot, without a good contextual reason, discard a date merely because it does not fit the pattern suggested by other dates,

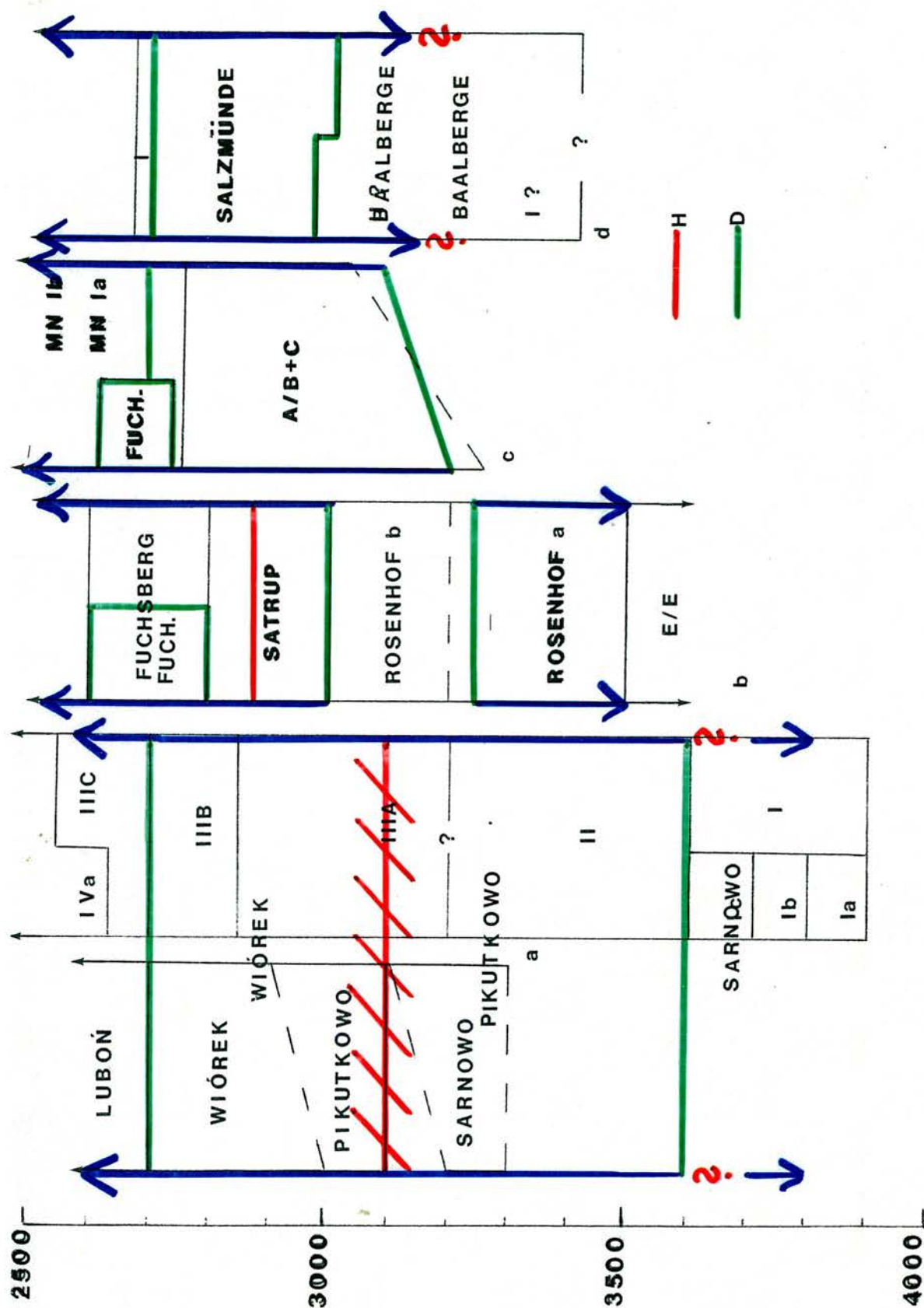


Fig. 16 Chronological table of TRB culture in various regions: a) Kujavia (after Wiślański 1979 and Koško 1981), b) North Germany (after Schwabedissen 1979a), c) Denmark (after Bakker 1979), d) Middle Germany (after Preuss 1980). Overlay - chronology of TRB culture based upon currently available uncalibrated C-14 dates (H-hypothetical, D-definite)

in this case Danish dates, from a geographically remote area. Indeed, since then (1977) dates from the area of north-western Germany give credence to the Sarnowo date and suggest a related horizon for similar cultural developments.

Furthermore, to suggest without sound evidence that "contamination with older charcoal has evidently occurred" (Lanting and Mook 1977, 73) is equally unacceptable. The material for the Sarnowo radiocarbon sample derived from a secure context, additionally sealed beneath an earthen mound, and there was no evidence of earlier cultural deposit (Gabałówna 1969b, 45; 1970a, 78). Could the Groningen researchers have adopted a biased attitude towards 'contamination' of samples on the basis of the earlier Danish experience? One cannot of course rule out biological contamination, but this applies equally to all radiocarbon samples. Gabałówna expressed confidence in the validity of the Sarnowo date and suggested, moreover, that the stylistic quality of the ceramic material associated with the sample was indicative of the end rather than the beginning of the phase (Gabałówna 1970a, 80; 1971, 249).

Traditionally, however, this date has not been included and the chronological framework of the eastern group has relied upon the correlation with other areas - especially the northern group. This approach is clearly evident in the chronological scheme of Wiślański (1979, 175-197). Although Wiślański did not reject *a priori* the Sarnowo date, he nevertheless adopted a cautious attitude towards the estimate of the beginnings of the TRB, relying heavily upon the evidence of radiocarbon dates from the northern group (*Ibid.*, 184). Consequently he dated the Sarnowo (A/B) phase to between c. 3300 and 3200/3100 bc. The Pikutkowo phase (which he synchronised with the older Baalberge and the beginning of the EN-C in the north) was dated to between c. 3100 and 3000/2900 bc, and the Wiórek phase (synchronised with the younger Baalberge and fully developed EN-C) was placed within the range of c. 3000/2900 - 2700 bc (Wiślański 1979, 184; Fig.16).

However, the reliance upon evidence from other areas can only be of limited value for the establishment of an absolute chronology. We must not assume contemporaneity of ceramic styles from geographically different areas. Even if the ceramic styles follow similar general

stages of development, their duration may vary substantially from region to region. Synchronisation based on cultural material is valid only in very general terms and does not automatically support an absolute sequence of development. Moreover, Wiślański's scale for the early stages of the culture seems to be of very short duration and does not take into account the fact that the appearance of the *TRB* in the European lowlands represents a fundamental change in a way of life, which was not likely to happen suddenly. Since qualitative changes must be taken into account, a formative period of about 100 - 200 years (Sarnowo phase) for the crystallisation of a culture is too short.

In contrast to this traditional framework stands the chronological scheme of Kośko (1981, 9). We discussed earlier the application of 'technological dating' of ceramic assemblages, and the results of this method prompted Kośko to suggest a revised, extremely detailed chronology (Fig. 16). It is based upon the assumption of parallel development of the *TRB* and *Late LBK* complexes and, although it refers mainly to *Kujavia*, some attempts have been made to extend it to other *TRB* groups.

In terms of relative chronology the sequence of local events includes five phases (I-V) and three developmental stages (A-C), all highly correlated to the similarly established *Late LBK* sequence. Stage A, that of initiation, includes phase I (Sarnowo or A/B in traditional nomenclature) with three sub-phases (Ia, b and c) and it represents the early beaker horizon (Kośko 1980, 130). According to Kośko this stage is very poorly represented and, on the basis of technological and stylistic qualities, includes material from Berlin-Britz, Łąkocin and Szymborzyce. None of these, however, can be said to represent the earliest stage of this phase. Furthermore, Kośko suggests that the technological and stylistic characteristics of the Sarnowo material are "...typical of phase II" (*Ibid.*, 131) and thus no longer the oldest.

Stage B, that of diffusion, includes phases II and III (Pikutkowo and Wiórek) and is known as the classic beaker horizon. This is a period of pan-European expansion of the *TRB*, when the majority of local developments take place. The third, C stage, that of differentiation, includes phases IV and V and is represented by materials which already reveal influences from the new cultural complexes of the Globular

Amphorae and Corded Ware.

This relative chronology, which for the sake of clarity is presented here in a simplified version, is primarily an attempt at establishing a sophisticated version of typology. Even though 'typology' has been substituted by 'technology' the whole concept rests upon stylistic rather than technological qualities of ceramic assemblages (for example the appearance of 'stroke' ornament at the transition of phases I and II, or the "...co-adaptation of a number of morphological and ornamental features, initiated by adoption of a form of amphora" by the *Late LBK* from the *TRB* (Kośko 1980, 126, 128).

There are no *a priori* objections to such a relative framework, as long as it is treated only as a working hypothesis for the development of relative, typologically identifiable, ceramic phases. The similarities between ceramic assemblages of the *TRB* and *Late LBK* have been quoted often enough (see above) and the distribution of these complexes, based upon mutually exclusive but adjacent environments, makes parallel development acceptable. The problems begin, however, when we consider the way in which this relative scheme acquires absolute value. The confidence with which it is slotted into an absolute framework and each phase assigned to a particular duration in terms of years, verges upon ignorance of the principles of the radiocarbon method. The crucial points within the scheme - transition I/II and III/IV (Sarnowo/Pikutkowo and Wiórek/Lubón phases) - are acceptable in general terms, but there is no evidence from available C-14 dates to confirm the exact duration of phases and sub-phases; they are hypothetical and cannot be given absolute values.

Moreover, Kośko takes to the other extreme the assumption of contemporaneity of ceramic styles within different regional groupings (Kośko 1981, Fig. 9). We criticised earlier the traditional approach for its reliance upon C-14 datings from various regions for the construction of a local chronology. Equally we have to criticise Kośko for paying no attention to the C-14 evidence, or lack of it, from other areas (cf. his positioning of Store Valby in phase I) in his attempt to superimpose his own typo-chronology (and absolute chronology) relying merely upon typological evidence and ignoring entirely the



local developments and local chronological evidence.

Criticism is not levelled here at the concept of 'technological dating' but at the way in which a relative ceramic sequence is used indiscriminately to represent a development in absolute terms, where there is no evidence to justify doing so. The only value of Koško's scheme at present is in relative terms, and one or two fixed points within the time scale do not give us a mandate for the construction of a detailed absolute framework.

In terms of absolute chronology of the eastern group of the *TRB*, only a few points can be located with any confidence. Firstly, we can accept that by c. 3600 bc the *TRB* culture is present in Kujavia, in a form known from the Sarnowo and related assemblages. This we base directly upon the C-14 determination from underneath the Sarnowo long barrow (KUJ- 32/8), and indirectly upon the stylistic qualities of Sarnowo and *Late LBK* materials (Fig. 16, overlay). Secondly, the stylistic connections of this material with the subsequent Pikutkowo ceramics allow us to suggest that this material is indicative of the final stage of the phase rather than its beginning. This suggestion, however, remains - until further verification based on local C-14 evidence - only a working hypothesis, and does not entitle us to speculate upon a date for the beginning of the Sarnowo phase. Developments in the north-western part of the German Plain (see below), however, although geographically distant, suggest independently a similar horizon for the beginning of the *TRB*, which gives additional credence to the placing of the Sarnowo phase before the middle of the 4th millennium bc.

The other point within the chronological time scale which can be established with the support of the C-14 dates and stylistic changes in pottery assemblages is the transition between the Wiórek and Luboń phases, at around 2700 bc (Fig. 16, overlay; Bakker *et.al.*, 1969, 214). The transition between the Pikutkowo and Wiórek phases cannot as yet be established in absolute terms. The comparison of material evidence from both phases, especially the stylistic development of pottery, would suggest that the transition was gradual and that the Wiórek style proper arrived as a result of a progressive change, which at present can be defined only in terms of ornamental motifs. There is a series of C-14

dates (Appendix 1) which imply the existence of the Wiórek style in the south-eastern group by around 3100 bc. This would suggest that the Wiórek style was fully developed in Kujavia by 3100 bc, but so far we have no direct evidence to support this. Thus the point of transition between the Pikutkowo and Wiórek phases is merely hypothetical and the transition itself was likely to have occurred gradually, over a long period of time.

In presenting a chronological scheme, especially in absolute terms, it is important to remember that most changes would be occurring gradually and unevenly, and that they need not correspond in all aspects of the culture. At present we are able to define them mainly in ceramic assemblages, and the fixed points of the time scale refer merely to points where the results of the process of change are noticeable archaeologically. Thus in a sense they are distortions of reality. The low-precision C-14 dates which are available to us do not help in establishing the duration of particular events and the resulting linear schemes are merely working approximations of historical development.

Three typological phases have been suggested for the early *TRB* culture in north-western Germany: the Rosenhof, Satrup and Fuchsberg phases (Schwabedissen 1967, 1979a, 1979c). These have been distinguished on the basis of stylistic pottery development, with some confirmation through stratigraphy and support in C-14 dates. The material of the Rosenhof phase has already been discussed in detail (see above). At the Rosenhof settlement itself it is clearly stratified above the layers containing the Ertebølle-Ellerbek material (Schwabedissen 1979a, 167, Fig. 1). A similar stratigraphical position was noted at Boberg (Schindler 1961).

The following Satrup phase, originally thought to have been the earliest Neolithic phase in this area (Schwabedissen 1967), now seems to be later than Rosenhof. At Rosenhof itself a sherd of the Satrup style has been found stratified above the earliest *TRB* level (in a *Muschelbank*; Schwabedissen 1979a, 167-168, Fig. 3-5). But at Satrupholm Moor the earliest *TRB* phase has not been found, although there seems to be a gap between the Ertebølle-Ellerbek and Satrup levels at Pöttmoor and Sündensee-Damm (Schwabedissen 1958b, 7, 11, Fig. 2). Characteristic



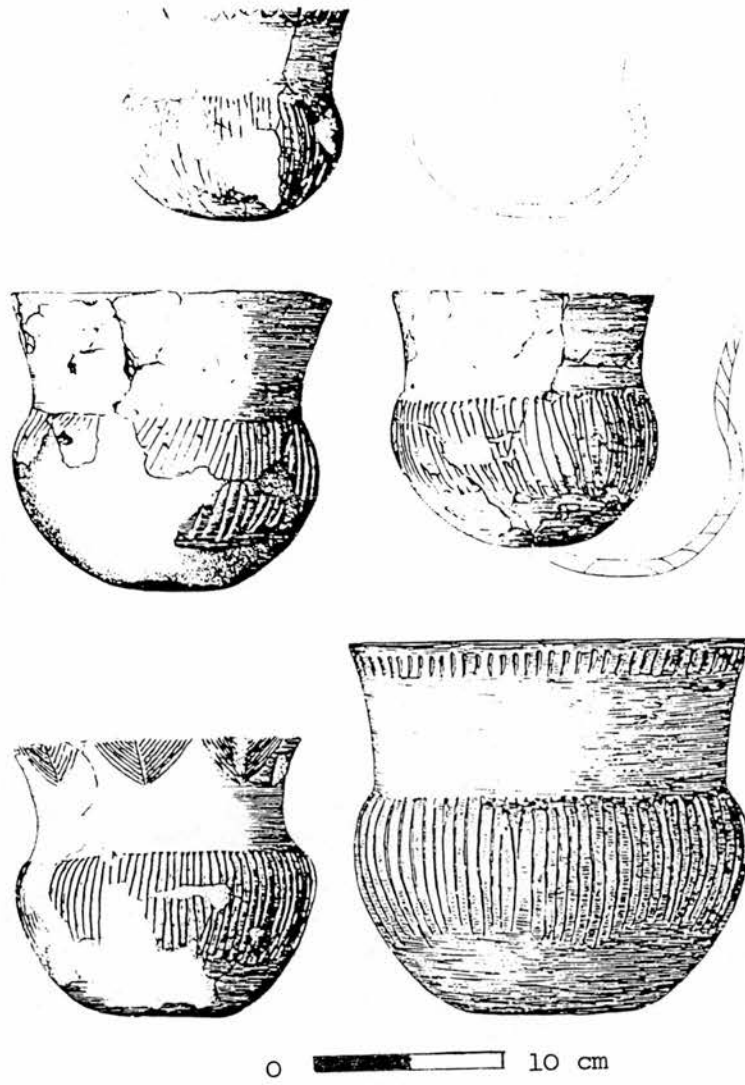


Fig. 17 Satrup phase pottery (after Schwabedissen 1979b)

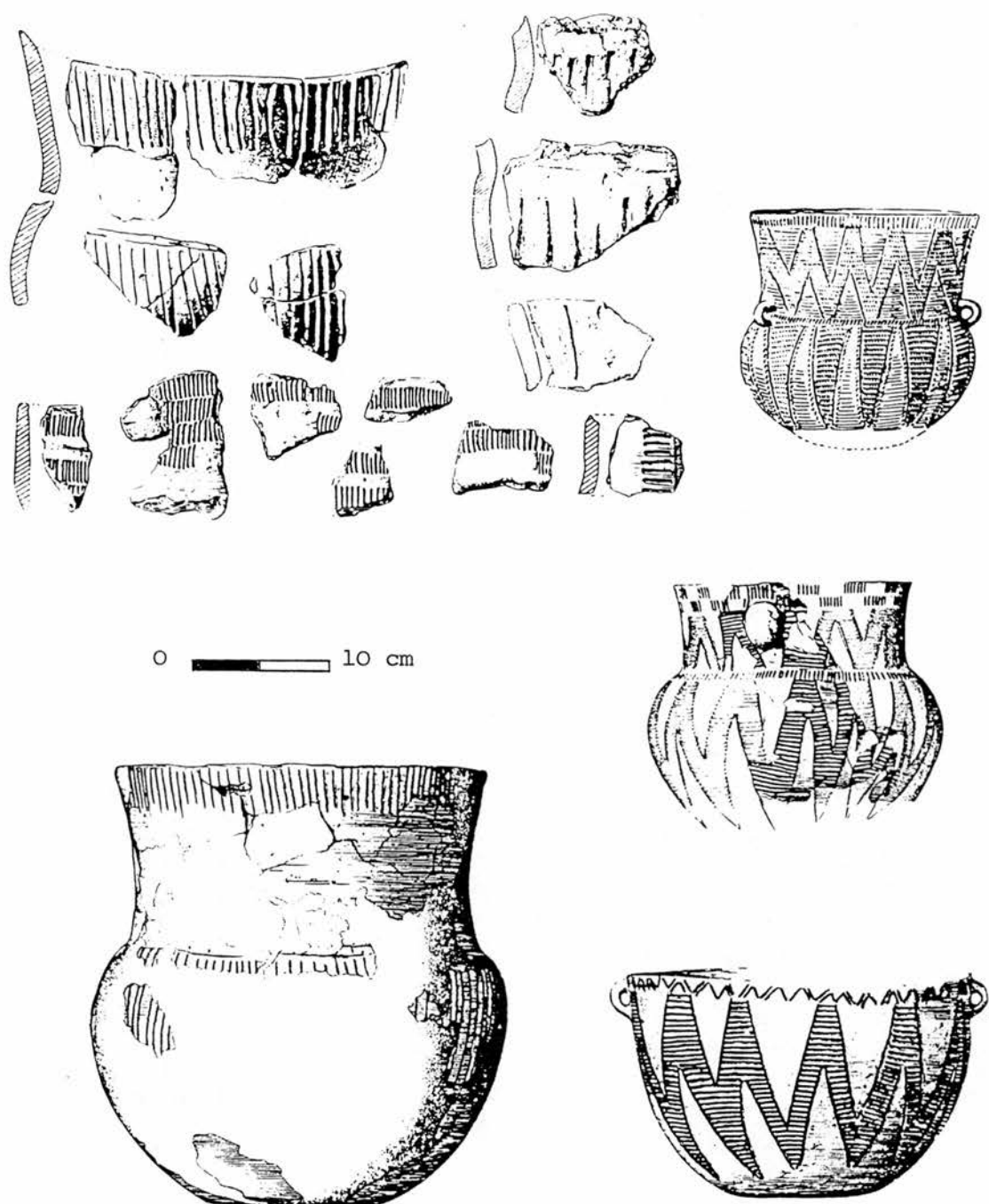


Fig. 18 Fuchsberg phase pottery (after Schwabedissen 1979b)

pottery forms include beakers with flat or rounded (*Wackelboden*) bases, decorated with vertical grooves (*Bauchfransen*) on the lower part of the vessel and under the rim (Fig. 17). The following Fuchsberg phase (previously known as the Haassel style; Dehnke 1940) represents a direct continuation of the Satrup style. The diagnostic forms include lugged beakers, collared flasks and bowls (Fig. 18). The ornamentation covers most of the surface, arranged in large chevron bands, with grooves or zig-zag lines under rims. This type of pottery is known from settlement sites, for example at Fuchsberg, Oldesloe Wolkenwehe (Schwabedissen 1967), and from long barrows (Haassel and Tosterglope - LSAX - 9; Dehnke 1940). It does seem however that some pottery from the Sachsenwald earthen long barrows attributed to the Fuchsberg phase (Hoika 1973, 403) may be typologically earlier than the fully developed Fuchsberg, possibly representing a transitional form between Satrup and Fuchsberg.

This sequence of Rosenhof - Satrup - Fuchsberg phases is generally acceptable on the basis of material and those C-14 dates from north-western Germany which are known (Appendix 1). The absolute chronological framework for the duration of these phases, which has been recently suggested by Schwabedissen (1979a; 1979b, Fig. 12) cannot however be accepted with any confidence. This is largely due to the fact that many of the C-14 dates which are claimed for all the phases either remain unpublished or may only be found piecemeal in various publications (for example Preuss 1980, Fig. 28), without the necessary information on their archaeological context and frequently without a laboratory number. Nothing can be deduced of the method used for estimating the duration of the phases and, moreover, the neatness of the scheme and the way in which one phase succeeds the other suggests that, until such time as it can be verified, it must remain suspect (Fig. 16).

The range suggested for the duration of the Rosenhof phase is quoted as either 3510 - 3050 bc (Schwabedissen 1979a, 171) or 3510 - 3040 bc (Schwabedissen 1979b, 157, Fig. 12), with a subdivision into Rosenhof 'a' (3510 - 3130 bc) and Rosenhof 'b' (3230 - 3040 bc). Of the 34 dates claimed for this phase it was possible to identify 7 (Appendix 1) - all from Rosenhof itself - and it is not clear whether the Hude

dates (associated with Bischheim) have been included or not. The available Rosenhof dates range between 3460 and 3250 bc (Appendix 1) and thus they fall within the range estimated for the Rosenhof phase (Fig. 16, overlay). The placing of the beginning of the Rosenhof phase around the middle of the 4th millennium bc is acceptable in view of contacts with the Rössen culture as well as similar developments in Kujavia. Moreover, it is consistent with the above-suggested theory of the *TRB*'s development, in close association with and under the influence of cultures such as Rössen and *Late LBK*.

The Satrup phase is said to have lasted from 3100 to 2770 bc (Fig. 16). However, only 7 dates out of 18 claimed - those from Sündensee-Damm - are currently available (Lanting and Mook 1977,55), and their range does not correspond entirely to that suggested by Schwabedissen. Whether the Satrup phase follows from Rosenhof or whether they are partly contemporary cannot be determined since the dates towards the end of Rosenhof are not known; those which can be quoted (Appendix 1) do not at present show such overlap. Similarly, the dating of the Fuchsberg phase, 2790 - 2605 bc, is not as straightforward as Schwabedissen's scheme suggests. He claims 7 dates (only 6 are identifiable) and it is suspected that 5 of these are associated with the Sarup enclosure (Andersen, N.H. 1981). The only date from Fuchsberg itself lies outside the range for this phase (Appendix 1), quite a bit earlier than Schwabedissen's scheme suggests. As we shall see below, the C-14 dates as well as other considerations suggest that the *TRB* culture appeared in the Jutland peninsula and the Danish islands later than in the lowlands of the North European Plain. We must therefore consider the possibility that the Fuchsberg style developed earlier in the area to the south of the Jutland peninsula. Not enough C-14 dates from Germany are available at present to sustain such a claim. Research over the last ten years, however, has shown that typological dating alone is not sufficient for inferring chronological connections between regional groupings, and so this is merely suggested as a possibility.

The area of north-west Germany is of crucial importance for our understanding of the developments and chronology of the *TRB* culture and has in recent years provided important insights into the origins of

this culture. It is therefore highly regrettable that, in circumstances where detailed chronological evidence apparently exists, it cannot as yet be usefully applied.

In spite of a large number of radiocarbon determinations from Denmark (Appendix 1), the internal chronology of the Danish early *TRB* (EN) is still highly problematic. The main difficulty lies in the incompatibility of Becker's typological scheme of A-, B- and C-phases and the consistently overlapping C-14 dates which do not bear out this sequence (Becker 1947, Tauber 1972; Appendix 1). It is not possible in this work to solve the internal problems of the early Danish *TRB* but it is nevertheless felt that the most serious obstacle to the resolution of this particular question lies in the persistent adherence to the A, B and C typo-chronological scheme, and that these 'phases' should really be regarded as overlapping, regional styles. It is of significance that Becker was unable to isolate A and B phases in any other area of the *TRB*'s distribution (Becker 1947, XIII) and it is further important to note again that ceramic forms similar to both are found together on Schleswig-Holstein sites. The suggested contemporaneity of the A and B styles (with C style possibly later) may further be argued in view of the development of the *TRB* in other areas already discussed. By the time the *TRB* culture is apparent in Denmark both styles are well established and their contemporaneity quite in concordance with the development of the *TRB* as suggested earlier.

For the purpose of the present discussion the significant features of the chronology of the early *TRB* (EN) in Denmark are as follows: the *TRB* culture appears here at about 3200/3100 bc (Fig. 16, overlay). This is consistently borne out by the Danish radiocarbon dates as well as by the cessation, at the same time, of the Danish Ertebølle-Ellerbek culture (Andersen, S.H. 1975, 83). Another fixed point within the chronological framework is the transition from the early to middle (EN/MN) phases, taking place around 2650 bc (Madsen 1982, also pers. comm.). The situation towards the end of the EN is slightly complicated by the existence of the Fuchsberg style (in Denmark between 2750 and 2630 bc; Andersen N.H. et al 1978) which overlaps with the EN and MN I. However, distribution of the Fuchsberg pottery, on present evidence,

shows concentration along the eastern coast of Jutland and on the adjacent Danish islands (*Ibid.*, Fig. 1). This possibly suggests another ceramic style, and as such does not contradict the overlap of both the early and middle Neolithic (Fig. 16, overlay).

The distinction of the early *TRB* horizon in the area of middle Germany (Elbe/Saale) and in Bohemia and Moravia presents us with difficulties, mainly due to the lack of convincing stratigraphy and chronological indicators. The first identifiable group in these areas, which is generally known from burials rather than settlements, is that of Baalberge (Behrens 1959, 1960, 1973; Preuss 1966, 1980).

Typical ceramic forms include beakers with flat bases, amphorae with two, four or more handles, semi-conical and carinated bowls, jugs and cups. Whether or not collared flasks are associated with this phase is arguable. Ornament on the vessels is very scarce, limited in the main to applied strips of decoration (Preuss 1966, Tables 1, 2, 3, 7 and others) and occasional 'stamp' impressions. Typological divisions within the Baalberge pottery are difficult to establish. Preuss originally thought that vessels with rounded bellies represented an older, and those with sharper profiles a younger horizon (Preuss 1966, 27). He no longer maintains this division (Preuss 1980, 21) although Lichardus still claims the existence of two horizons on the basis of stratigraphy and typological divisions at Zauschwitz, distr. Borna (Lichardus 1976, 143, 195). It is possible that some indication of phasing within the Baalberge group can be gained from burial orientation. The secondary orientation burial group (on E-W axis with head to W), which is known exclusively from the area of the southern distribution of Baalberge, and from where later the Salzmünde group is known, may suggest the existence of a younger horizon.

In the south, Baalberge is followed by the Salzmünde group, while in the north it may have been succeeded by the Altmark (Altmark *Tiefstich*) group of the Düsedau and Haldensleben horizon (Preuss 1973, 1980). Later developments involve the transition from Salzmünde to Corded Ware and from Altmark to true *Tiefstich* (Walternienburg/Bernburg).

It is extremely difficult to assess the chronological position of the Baalberge group since there are no C-14 dates associated with



Baalberge material, except for a very late determination from Postoloprty, Bohemia of  $2980 \pm 80$  bc (Bln-482; Kohl and Quitta 1970, 406), and a date from a long mortuary enclosure at Březno, Bohemia of  $3140 \pm 45$  bc (GrN-8803; Pleinerová 1980, 41) which, however, is associated only with a general *TRB* horizon. Recently Preuss suggested, on the basis of C-14 dates from other regional groups and typological connections between the Rössen, Gatersleben and Baalberge groups, that the beginnings of Baalberge should coincide with the younger Rössen and Gatersleben horizons (cf. Wahlitz  $3350 \pm 20$  bc, Grn-433; Kmehlen  $3410 \pm 160$  bc, Bln-231; Preuss 1980, 27). He sees further support for this in recent finds of the so-called Baalberge amphora from Rosenhof, which has been dated to  $3390 \pm 50$  bc (KN-2334; Schwabedissen 1979a, 168). This, with a further comparison of dates for the Rosenhof phase (see above) suggests, according to Preuss, a chronological contact between Rössen and Baalberge, although it does not imply an extensive overlap between the two. Furthermore, in view of the Postoloprty date, he suggests that Baalberge must have lasted about 500 years (Preuss 1980, 27).

Thus Baalberge would have its beginning sometime between 3400 and 3350 bc. This could be further supported by stylistic comparison between the Baalberge and Pikutkowo and Wiórek styles (Wiślański 1979, 177). Unfortunately, such chronological positioning still rests entirely upon typological connections, and from previous experience we know that this is acceptable only in the most general sense. Until we have direct evidence in terms of C-14 dates in association with Baalberge material, any statement as to its beginning and duration may be regarded only as relative and of a very general nature (Fig. 16, overlay).

To the north of the Baalberge group distribution, in the areas of Mecklenburg and Brandenburg, there is very little early *TRB* material available. Some stray and bog finds are typologically earlier than MN and the Berlin-Britz assemblage is even classed as belonging to the very early stage of the first phase of the *TRB* (Koško 1980, 131). But in general there is little evidence for the early *TRB* in Mecklenburg and Brandenburg and scholars differ in their opinion as to the source of this material. Preuss believes that the *TRB* in Brandenburg and around the area of Berlin is directly related to the influences from the middle



German area (the Baalberge group; Preuss 1980, 31) while Nilius feels that this area had more connections with the north than with the south (Nilius 1971, 30). Only one C-14 date for this area is known for the early *TRB* - that from Schönermark- of 3155±70 bc (KN- ? ; Lanting and Mook 1977, 73); it is associated with typologically early material (A/B) but, being a solitary determination, it does not help towards the dating of the early *TRB* in this area. Further developments in Mecklenburg may suggest a horizon similar to that of Fuchsberg (for example pottery from the Stralendorf long barrow , MBG - 25), but the best documented development of the *TRB* relates to the *Tiefstich* pottery and the horizon of the megalithic graves with stone chambers, which is outwith the period of this work (Schuldt 1972).

The above review of chronological evidence and schemes within different areas of the *TRB*'s distribution suggests that, at present, we do not have enough evidence to support Becker's claim of a uniform A/B horizon (Becker 1947,XIII) over the whole of the North European Plain. This horizon is present neither in a typological, nor in a chronological sense. The evidence presented above suggests that, although developments within the early stages of our culture followed a generally similar pattern, they were not synchronous. The area of Kujavia reveals, in absolute terms, the earliest evidence for the development of the *TRB* (which, however, is not to suggest that this is where the culture originated). Typologically related phenomena seem to follow soon afterwards in the area of north-western Germany, and either contemporaneously or slightly later in the Elbe/Saale river system. It is only after this culture established itself in the above-mentioned areas that we observe similar processes taking place in other regions. Whether this pattern of development is suggested merely because of the character of the available evidence, whether it reflects the true state of historical developments, we shall be able to judge only when new evidence (stratigraphy and C-14 dates), especially from the poorly documented regions such as central Germany, Bohemia and Moravia or Mecklenburg, comes to light. Until then, any chronological framework will be of a temporary character and should be treated merely as a working hypothesis.

# COMMENTS ON THE SETTLEMENT AND ECONOMY OF THE *TRB* CULTURE

The settlement of any culture is a complex phenomenon. Not only does it involve the settling and exploitation of an environment, and so depend upon the nature of that environment, but - equally important, and in the case of the *TRB* culture especially so - it depends upon the preceding cultural, economic and social traditions and experiences upon which innovating communities freely draw as they develop.

The reconstruction of the settlement process of the *TRB* culture is a difficult task because the evidence available to us is very inadequate and also very variable in quality and quantity from one area to another. This is partly related to the nature of the archaeological evidence itself, and partly to the scholarly interests and research priorities in different regions. Thus there are some relatively well-studied areas (north-western or south-eastern Poland and recently central Jutland), and others (Elbe/Saale, Mecklenburg and Lower Saxony) where there is still a marked lack of evidence.

Information about the settlement of the early phase of the *TRB* culture is still rather scanty, and only available from a few areas. Recent surveys carried out in Poland (Kośko 1982; Kruk 1973, 1980; Wiślański 1969) and in Jutland (Madsen 1982) suggest that the sites tend to be rather small, often of a semi-permanent character, represented by a scatter of finds and only very occasionally revealing traces of habitation structures (Sarnowo 1A, Łącko or Mosegårdén).

The location of these sites (especially in Kujavia or Greater Poland) indicates that the early *TRB* communities exploited an environment substantially different from that of the *LBK*, although not too far from the older settlements (Wiślański 1969, Kośko 1982). The preference for a lighter, easily cleared environment - *podzols* or sandy dunes which supported a mixed forest - may indeed suggest that, in the early stages, the Mesolithic tradition of occupation of a specific environment was continued in the *TRB* settlement. Topographically these sites also differ; they are located on the upper slopes of large and small river valleys (Fig. 19) or on higher ground by the lakes, contrasting with the position of the *LBK* sites lower in the valleys (Wiślański 1969, 72-82, Tables VI, VII, Figs. 6 - 11). Moreover, this

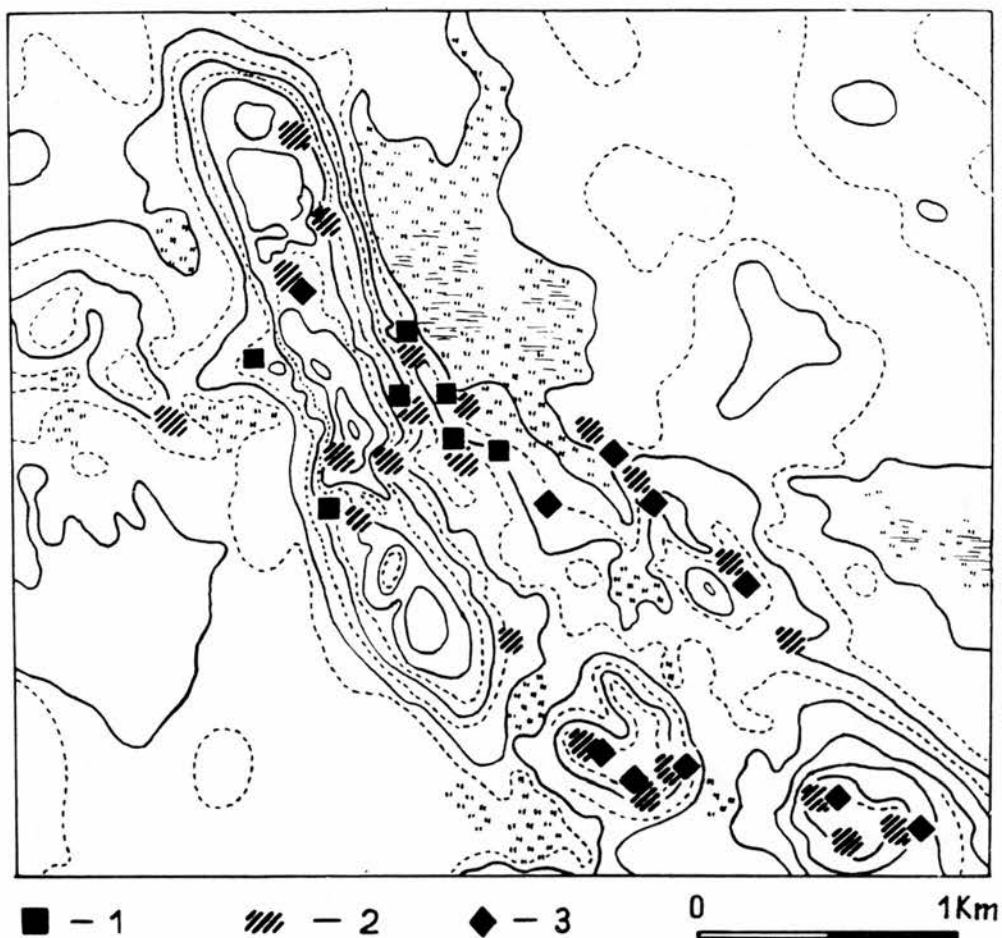


Fig. 19 Neolithic settlement in the vicinity of Radziejów Kujawski: 1) settlements of *LBK*, 2) settlements of *TRB*, 3) settlements of Globular Amphora (after Wiślański 1969)

tendency is characteristic of the *TRB* culture throughout all stages of its development.

About thirty early sites have been identified in Kujavia, forming complexes near small rivers such as Zgłowiączka (the well known Sarnowo complex), Bachorza or in the vicinity of the Łącko lake (Kośko 1982, 40-47; Wiślański 1979, 199). Two of the sites, Sarnowo 1A and Łącko, revealed traces of habitation structures. Both were rather flimsy, built on a framework of heavier branches, with stone supports at ground level. The Sarnowo structures were smaller (3 x 4m) than that of Łącko (7 x 11-12m); the latter was apparently divided into two rooms (Gabałówna 1969a, 54; Kośko 1982, 43).

Distribution of the early *TRB* sites in eastern Jutland, recently studied by Madsen, suggests that 'catching' sites continue a Mesolithic pattern of coastal location (use of coastal resources), while habitation sites tend to be further inland but never far from sea or lake (Madsen 1982, 204-205, Fig. 3a). One site, Mosegården, revealed traces of two small huts, seen in the arrangement of post-holes and trenches.

The settlement pattern of the North German Plain, however, is not yet fully understood. From the area of Mecklenburg and Brandenburg the early *TRB* is known mainly from stray and bog finds (Nilius 1971). A study of the distribution maps (Nilius 1971, maps VII and XVIII; Gramsch 1971, map 3) suggests that in the Mecklenburg region it was mainly the broad belt of the ground moraine soils that was settled, while the coastal strip of the north-eastern part of the Plain, earlier occupied by the Ertebølle-Ellerbek population, seems to be entirely devoid of early *TRB* settlement (Gramsch 1971, Nilius 1971, Preuss 1980).

Furthermore, there is a contrast in the distribution of the early *TRB* sites within the North German Plain. The areas west of the Elbe can now claim a relatively rich settlement (Schwabedissen 1979a, 1979c), whereas nothing comparable can be seen east of the Elbe. We must remember, however, that our knowledge of the *TRB* settlement of the former region is a result of intensive fieldwork in the last ten years. It seems very likely, therefore, that the paucity of the *TRB* in the eastern part of the Plain results from a lack of research rather than from a real absence of the *TRB*.

The maps also reveal certain interesting inconsistencies in the eastern part of the Plain. For example the area of south-western Mecklenburg is usually considered free of *TRB* settlement (Nilius 1971, map VII; Preuss 1980, 30) and yet it is here, especially in the Hagenow district, that many earthen long barrows have been destroyed (Schuldt 1972, map 7). Is it therefore possible to interpret this pattern as indicating designation of certain areas within the landscape for specific purposes, or are the habitation sites yet to be found?

It has already been mentioned that the southern, Baalberge group stands apart from the rest of the *TRB* culture in many aspects. This is clearly seen in the distribution of the Baalberge finds, although we should remember that this pattern is based predominantly upon burial sites and stray finds since hardly any settlements are known. According to Preuss evidence of the Baalberge group is found exclusively in areas of fertile 'black earth', and this group avoids the wooded sandy or loamy soils (Preuss 1980, 26). Some areas, such as the region between Altenburg and the rivers Unstrut and Ilm, so far contain no Baalberge finds, although this area was settled by the *LBK*, Rössen and post-Baalberge groups. Preuss suggests that this was either because Baalberge was contemporary with some older culture which was settled there or because temporary forestation restricted settlement areas during the period of Baalberge existence (*Ibid.*, 26), although the latter seems very unlikely.

These explanations are not, however, entirely satisfactory. In view of Baalberge's individuality it might be more appropriate to connect this selectivity of environment with an adherence to the earlier (*LBK*) models of landscape exploitation. On the other hand, we may be dealing here with a different process - one similar to the south-eastern group - where settlement shifted onto fertile loess areas very soon after the *TRB* arrived there (Kruk 1980). Baalberge's chronological position within the early *TRB* is still not clear and either of the above suggestions could apply. Not until we have better chronological indicators and more evidence on the actual settlement and economy of this group will it be possible to explain the reasons for Baalberge's differences from the rest of the *TRB* culture.

With the subsequent development of the *TRB* we observe apparently contrasting tendencies within the settlement pattern. Firstly, we note an expansion within the originally occupied environment of the moraine and sandy soils (Wiślański 1979, 200). At the same time there was a movement onto fertile soils (such as clays in Denmark, Andersen, N.H. 1981, 75) and especially onto territories which were previously occupied by the 'Danubian' farmers, such as the 'black earth' of Kujavia (Kośko 1982, 58), the Pyrzyce Land in Western Pomerania (Wiślański 1979, 200; Siuchniński 1972) or the loess uplands of Little Poland (Kruk 1980, 49-50). This settling of a variety of landscapes seems to reflect differences within and various trends in the economic strategy of the *TRB*, surely indicating a multiplicity of different groups in this culture-complex.

At the same time we can observe a greater variety of settlement forms - small, medium and large sites (seasonal or permanent), and large enclosed areas, which have become associated with the *TRB* only during the last decade (Andersen, N.H. 1981; Hingst 1971; Madsen 1978a, 1978b; Milisauskas and Kruk 1977). Sites differ greatly in size and in density of material recovered - small ones tend to be regarded as seasonal or of a single phase, perhaps associated with a particular aspect of the economy such as hunting (for example Szlachcin or Ustowo, Tabaczyński 1970, 187; Wiślański 1979, 216), herding or even flint-mining (Balcer 1980, 96; Kruk 1980). Medium or large sites are known throughout the whole of the *TRB*'s distribution, although the best studied belong to the south-eastern group.

Within the settlements there is a variety of habitation structures. Houses were generally smaller in size than in the *LBK*: Zarebowo, 7,5 x 12m, Niedźwiedź, 16 x 6m (Wiślański 1979, 203-11), Wittenwater, 15,6 x 6m (Schirinig 1979b, 244) or Dümmer 3 x 4m to 4,8 x 7m (Schlette 1958, 109). Whether they imply different forms of community from that of the earlier period (large long house/extended family, or small house/single family) cannot be ascertained, just as it is by no means agreed that the long houses did represent large family units in the first place. The assessment of house structures from Denmark is made difficult by the re-interpretation of large structures such as Barkaer (or even



Stengade) as possible multi-period burial constructions rather than habitation houses (Glob 1975, Madsen 1979).

Some idea of the layout of the larger settlements may be gained from sites in the south-eastern group, although how far this is representative of the rest of the culture we cannot ascertain. The settlement at Ćmielów, distr. Tarnobrzeg, was located upon a natural elevation about 500m long and 170-200m broad. The houses, hearths, storage pits *etc.* were concentrated in the central part, while on the edges of the hill there was evidence of industrial activities such as flint-working or pottery-making (Krzak 1963). Interestingly, traces of copper smelting have been encountered only in the central area - which may point to the importance and vulnerability of this particular activity (Wiślański 1979, 210). Similar distributions have been observed at other sites, for example at Gródek Nadbużny (Kowalczyk 1958) or Bronocice (Milisauskas and Kruk 1977).

Apart from the actual settlement sites a category which, although for a long time mentioned in association with the south-eastern group (Jażdżewski 1936a, Tabaczyński 1970), only recently became recognised in the rest of the culture, is the large enclosure. These are now known in fair numbers throughout the whole area of the *TRB*'s distribution from Bohemia and Moravia to Denmark, although as yet none are known in Kujavia (Andersen, N.H. 1981, Behrens and Schröter 1980, Hingst 1971, Madsen 1978a and b, Tabaczyński 1970). Interpretation of these sites is still very difficult, partly because of incomplete excavations. Some enclosures - those associated with the south-eastern group - are closely connected with the settlements: Bronocice (Milisauskas and Kruk 1977), Gródek Nadbużny (Kowalczyk 1958, Tabaczyński 1970), Grzybowice Małe (Jażdżewski 1936a). They may have been closely associated with economic activities such as cattle herding (Kruk 1980, Wiślański 1979). Others, although they have been assigned a similar function, are set individually within a heavily deforested landscape (Dölauer-Heide; Behrens and Schröter 1980, 20). Others still, such as Sarup and Toftum, do not at present reveal evidence of association with any aspects of economy, but rather suggest a non-utilitarian function (Andersen, N.H. 1981, Madsen 1978a).



It is too early to speculate upon the precise nature of these sites, as it may indeed differ from region to region. However, recognition of this form as an important and recurrent feature of the developed *TRB* culture, followed by systematic investigation, may, in the near future, enable us to understand better some aspects of the *TRB* culture.

The economy, although ultimately based upon preceding developments in the area, represents the extension of a constrained economy into a much wider and more varied landscape. Some indication of the impact these economic developments had upon the natural environment may be gained from the analysis of pollen samples, although evidence from localities not directly associated with archaeological deposits is difficult to link with particular cultural groupings. Pollen evidence is very unevenly distributed within the settlement regions of the *TRB* culture. Danish research has a long history of polemic concerning the interpretation of pollen evidence (Becker 1954b; Iversen 1941; Troels-Smith 1942, 1955, 1956, 1967). Northwest German pollen evidence from the crucial early *TRB* sites has not yet been comprehensively published (Schütrumpf 1972; Schwabedissen 1979a, 1979c) and no information is available for the southern *TRB* group. Results of pollen analysis from the eastern and south-eastern groups have recently been interpreted by Kruk (1980, chapter 2; Fig. 20). Since they cannot, however, apply to the whole of the culture, the following comments should be regarded as only of a very general nature.

Pollen samples from various localities in Poland (Fig. 20) reveal, in segments corresponding to later Atlantic and earlier Sub-Boreal zones, clear traces - albeit variable in intensity - of anthropogenic activities. These include evidence of intensive burning of virgin forest cover and a drop in the quantity of tree pollen which is associated in many instances with the appearance of various grasses and, not infrequently, *cerealia* (Kruk 1980, 148). Although some evidence from the second half of the Atlantic period can reasonably be associated with the early *TRB* (for example pollen evidence from Sarnowo or from the Greater Poland National Park near Poznań) the strongest and most consistent evidence comes from the period between the Atlantic and Sub-

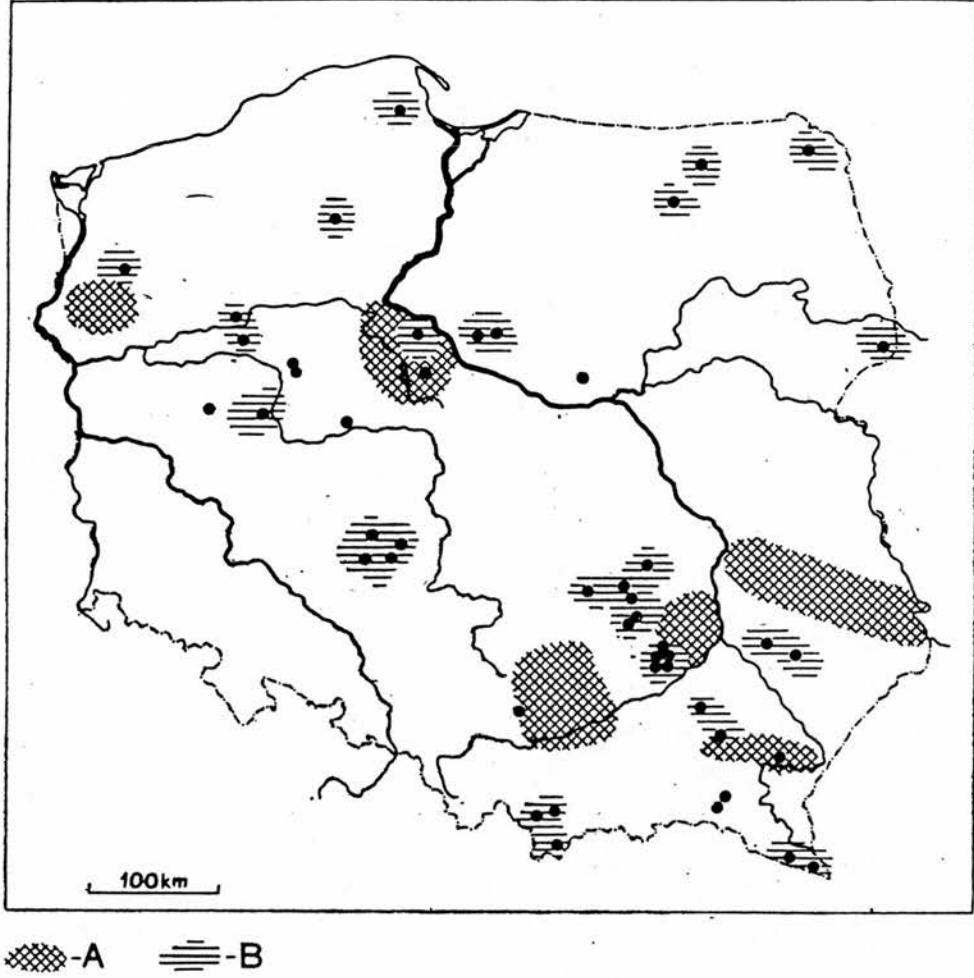


Fig. 20 Distribution of pollen samples associated with Neolithic sites in Poland (after Kruk 1980).

A) areas of rich Neolithic settlement

B) assumed extent of activities witnessed in pollen diagrams

Boreal zones (*Ibid.*, 175). This transition has recently been palynologically dated to c. 3150 bc (*Ibid.*, 134) and it is associated with the period of increased economic activity and of expansion of the TRB settlement of the Wiórek phase in the north-western, central and south-eastern Poland (Kruk 1980; Wiólański 1969, 1979). It is further highly probable that this expansion is archaeologically reflected in an increase in the number of settlements and, indeed, in the dramatic appearance of large tools - axes and long sickle blades - throughout the area.

Pollen evidence, of the kind mentioned above, is entirely consistent throughout the lowland and upland areas and indicates the clearing by fire of large areas of forest as well as cereal growing within a drier environment. In the Sub-Boreal period pollen evidence from south-eastern Poland suggests the permanent and extensive settlement of large, particularly upland, areas (Kruk 1980, 180-181, 185).

Evidence from Danish pollen spectra has been the subject of much argument about the interpretation of floral changes around the transition period from the Atlantic to the Sub-Boreal (Troels-Smith 1955, 1956; Becker 1954). Recent interpretation of Danish pollen evidence suggests that there was little interference with the natural environment (see also diagrams in Iversen 1941) apart from a reduction in the quantity of *Ulmus* and occasional peaks of *Plantago lanceolata* and/or *Plantago major* (Iversen 1941, Madsen 1982, 224). These changes are associated with small-scale, localised activities of man such as small, short-lived clearances. Furthermore, archaeological evidence for the earliest TRB in Denmark (c. 3100 - 2700 bc, see chronology section above) suggests occupation close to the coastline, and economic strategy at this stage (reliance on sea-food and pigs) need not have required drastic alterations to the environment (Madsen 1982, 222-227). It is only later, during the Sub-Boreal period, that we witness substantial changes in vegetation and this so-called *Landnam* horizon (dated to c. 2600 bc) is associated with full-scale activities. This interpretation on the whole accords with archaeological evidence, both in the appearance of the TRB in Denmark (around 3100 bc - Atlantic/Sub-Boreal transition) and in its subsequent development from the Fuchsberg/

MN I phase onwards (Andersen, N.H. 1981, Madsen 1982).

The types of cereal cultivated in the TRB culture are the same as those of the 'Danubian' farmers. Four basic wheats were sown: einkorn (*Tr. monococcum*), emmer (*Tr. dicoccum*), bread wheat (*Tr. aestivum*) and club wheat (*Tr. aestivo-compactum*). A large quantity of einkorn is known from Lietfield where it accounted for 66,3% (Murray 1970, 63) but everywhere else the dominant wheat is emmer. There is evidence that emmer might have been selected and cultivated monoculturally. Selected, clean finds are for example known at Ćmielów (Klichowska 1975; Kruk 1980, 205), Radziejów Kujawski (Gabałówna 1970a; Klichowska 1970a, table I) and at Sarup (Andersen, N.H. 1981, 72).

At Sarup emmer wheat accounted for 95,3% while at Radziejów Kujawski it constituted 99,5% of the analysed quantity (c. 40% of the total; Klichowska 1970a, 165). But the specific conditions of the latter find - completely burned in an open fire - suggest in this case that if selection took place it was for purposes other than sowing (Gabałówna 1970a, 159). This interpretation, of a 'ritual' treatment of a staple food, is further strengthened by direct association with an exceptionally decorated amphora (Fig. 21).

Millet (*Panicum miliaceum*) and barley (*Hordeum vulgare*) were also cultivated. The latter is generally found in small quantities, although occasionally exceeding that of emmer, for example at Mrowino (Wiślański 1969, 193), Janówek (Wojciechowski 1973, 51-52) or Mogetorp (Murray 1970, 63). Barley is certainly commonly found on the sites of the northern group (*Ibid.*, 1970, table 121) but Murray does not mention large quantities except at Mogetorp. In the south-eastern and eastern groups, with a few exceptions, it is less common than emmer but exceeds other wheats (Kruk 1980, 209). Barley grows best on fertile soils and it seems that it was only becoming more commonly grown towards the latter phase of the TRB (for example at Mrowino). This may relate to changes aimed at the maximisation of resources and may suggest the use of barley for human consumption as well as for animal fodder.

The cultivation of rye (*Secale cereale*) in the TRB is problematic. It was probably wild-growing, although a fairly substantial quantity

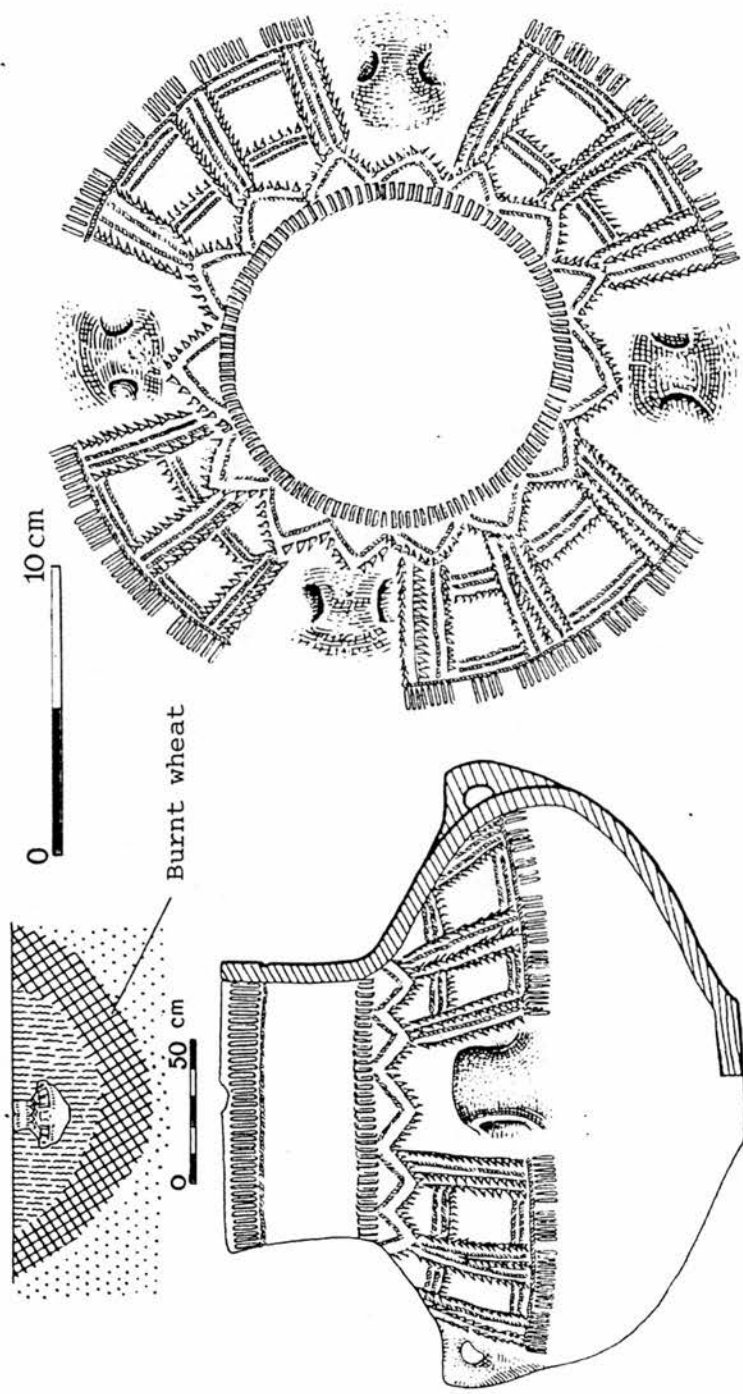


Fig. 21 Richly decorated amphora from Radziejów Kujawski (after Kośko 1982)

appeared in a pollen sample from the Budzyńskie lake (Kruk 1980, 208) in levels suggesting a *TRB* settlement in the vicinity. This, however, is so far the only example of a substantial amount in a *TRB* context and need not necessarily represent cultivation.

Among the non-cereal plants, pea (*Pisum sativum*) and flax (*Linum usitatissimum*) - found in a quantity of 18cm<sup>3</sup> of seeds at Ćmielów - were commonly grown (Murray 1970, 63; Wiślański 1979, table 11). Evidence from many *TRB* sites suggests that a variety of vegetable plants as well as fruits, if not cultivated, were certainly collected in wild form for their nutritious or medicinal qualities.

Little information is as yet available to us about the use of different parts of the natural environment for plant cultivation. Study of pollen spectra suggests less use than in the *LBK* of low areas for garden cultivation but a very strong association of drier, originally forested environment with growing cereals (Kruk 1980, 239). On the basis of information from various regions and of the chronological consistency of evidence for burning forested areas, as well as an analysis of specific examples (Sarnowo) and their association with the occurrence of cereal pollen, Kruk suggests that *Brandwirtschaft* was a likely method of cultivation (Kruk 1973, 183-185; 1980, 160-163, 196-197). However some of the activities, taking into consideration their scale as well as other aspects of the *TRB* economy, may relate not so much to specific methods of cultivation as to general clearances for settlement and to the provision of large spaces for grazing (Kruk 1980, 193).

Another basic element of the *TRB* economy was animal husbandry. Consumption of meat supplemented the plant diet with fat and protein, and animals were also a source of raw materials - hide, sinew, bone, antler, horn, manure - as well as of pulling power. It is not inconceivable that some were also kept as pets.

Although a discussion of the problems involved in the study of animal bone from settlement sites is outwith the scope of this study a few comments are nevertheless necessary. Not only is it difficult to ascertain whether a particular species represents a wild or domesticated animal, but also the quantity and quality of the bone refuse, unless

carefully considered, may be entirely misleading. A large number of bones of a particular species may indicate that large numbers were kept, but it may also reflect the fact that consumption of one particular type of meat was preferable to that of others. The number of bones will further reflect the size of animals killed, but the lack of bones from particular species does not automatically indicate that such were not kept. It is further necessary to consider the environmental conditions of a particular location with regard to the provision of pasture or winter fodder.

Notwithstanding these problems, the main domesticates in the *TRB* appear to have been cattle and pigs, with sheep and goats being of lesser importance (Murray 1970). Whether all cattle were of a domesticated variety is difficult to assess; Murray comments that on many sites there were individuals which could be either (*Ibid.*, 61), and evidence from the North German Plain suggests that domestic breeding as well as cross-breeding of wild and domestic varieties were taking place (for example at Siggeneben; Nobis 1979, 399).

Although a review of known bone assemblages shows certain regularities, we observe within the *TRB* a division into areas where domesticated animals were predominant - Kujavia or the loess uplands, areas originally under *LBK* settlement - and areas where hunting still played an important role - lowland zones, on the periphery of or outwith the direct influence of the earlier settlers (Tabaczyński 1970, 190).

Murray mentions that on some sites up to one third of animal remains were those of wild species (for example at Fuchsberg-Südensee; Murray 1970, 61, table 119). Sites at Szlachcin or Ustowo I and II show a high proportion of wild- animal bones - 59,9% and 39,6% respectively (Tabaczyński 1970, 187) - and Wiślański considers Szlachcin a typical hunting site of the *TRB* (Wiślański 1969, 116; 1973b, table 2). These sites may indeed suggest that domestication was of lesser importance in the lowland zone or that people living there were to a certain extent continuing earlier, local, Mesolithic traditions. Moreover, Kruk suggests on the basis of the domesticated/wild animal bone ratio that towards the end of the *TRB* (and the beginning of the Globular Amphora



and Corded Ware cultures) hunting became of importance again, reflecting structural changes which were taking place in animal husbandry throughout large areas of Europe (Kruk 1980, 309).

In the areas of the *TRB* where contact with and influence of the *LBK* and *Late LBK* cultures were stronger, the dominance of domesticates (especially cattle) is marked in all assemblages. At Makotrasz (Baalberge) cattle bones amount to 75% of the total; Weissenfels to 80% (Taba-

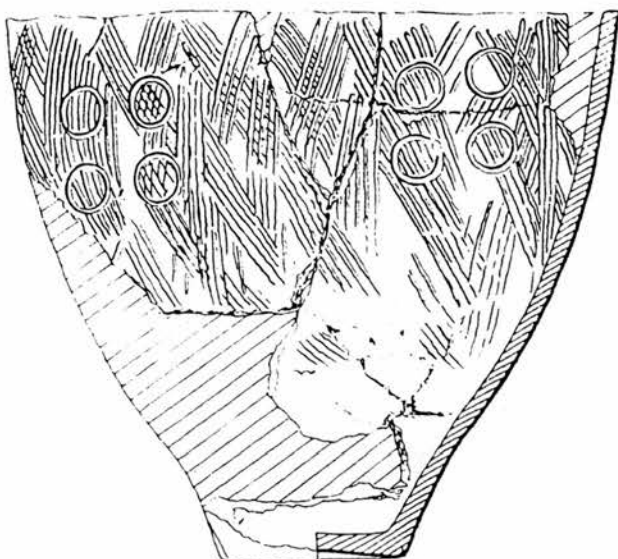


Fig. 22 *TRB* vessel from Inowrocław-Matwy with an engraving of 'a four-wheeled wagon' (from Kośko 1982)

czyński 1970, 185-186); on various sites in Kujavia they range from 45,3% to 74,5% (Kośko 1982, 61), and in Little Poland cattle constitute well over 50% on nearly all sites (Kruk 1980, Fig. 35). The position of pigs in the early *TRB* is not yet clear. There are indications that in some regions the pig may have been important as an early domesticate. In the settlement layer beneath a Sarnowo barrow (KUJ- 32/8) there were as many pig bones as cattle bones (Świeżyński 1971, Table 1), differing substantially from the situation at other settlement sites - for example in south-east Poland - where there is a clear numerical predominance of cattle bones. Madsen suggests that pigs were also important in the early *TRB* in Denmark (Madsen 1982, 223).

Towards the later phase of the *TRB* we observe changes within the pattern of animal husbandry. Kruk argues for the growth in importance of the pig as a meat supplier (assemblage at Książnice Wielkie; Kruk 1980, 303, Fig. 35), with less dependence on the consumption of cattle. There is no suggestion, however, of cattle becoming less important - merely that they provide less meat but possibly gain in importance through dairy produce or draught power for farming and transport (cf. engravings of wagons on pottery, Fig. 22).

It has been suggested that during the classic phase of the *TRB* period the animal stock was divided into mobile herds (cattle with sheep and goats) and stationary farm animals (pigs and oxen; Wiślański 1969; Kruk 1980, 314). In the summer large herds could graze in forest-free upland zones and in the winter they could be herded into specially designated areas (enclosures?) or into the protected areas of settlements (cf. enclosures around settlements, for example at Gródek Nadbużny or Bronocice).

A vital aspect of the economy of the *TRB* culture was the exploitation and use of raw materials, particularly flint. That this formed an integral part of the economic system has been strongly stressed by Polish archaeologists (Balcer 1980, 1981a, 1981b; Tabaczyński 1970; Wiślański 1979). These studies have shown that a thorough investigation of all aspects of flint processing can not only clarify elements of technology and cultural and chronological connections between various communities but also, equally importantly, can contribute to the interpretation of social and economic problems.

It is therefore particularly frustrating that, as indicated earlier, detailed evidence of flint-working is only available from the eastern and south-eastern groups and that only a very fragmentary pattern of flint exploitation and use can be presented. Within the *TRB*'s distribution, known primary sources of flint are limited to a few locations. In the north flint deposits are known from northern Jutland (e.g., at Hov; Becker 1959, 87-92) and along the southern coast of the Baltic - in Mecklenburg, on the islands of Wolin, Uznam and especially Rügen (Gramsch 1973, 72). Apart from these deposits, surface flint has been collected along the Jutland coast and through-

out the North European Plain - but this flint is not of high quality and frequently appears in the form of small, weathered and fragmented nodules (Wiślański 1979, 220).

None of the above sources, however, match the quality and abundance of the deposits in the Upper Vistula region - the Świętokrzyskie (Holy Cross) Mountains and the Lublin Upland areas - which supplied the bulk of raw materials for the eastern and south-eastern *TRB* groups and beyond (Balcer 1976). Although we cannot of course tell how far patterns discerned in these two areas reflect those of other regions, it is nevertheless worthwhile to examine the evidence in greater detail since the results of studies do suggest a degree of complexity and a range of contacts which may have been characteristic of the whole of the *TRB*.

In the territory of Poland two basic stages of flint mine working within the *TRB* have been distinguished. The earlier stage has so far only been identified in Kujavian assemblages of the Sarnowo and Pikutkowo phases (Sarnowo, Sierakowo, Łącko, Leśniczówka). The later stage is associated with the Wiórek and Luboń phases. Kujavian assemblages of this period are less well represented, but may be compared with richer and better-studied ones from the south-eastern group (for example Ćmielów or Bronocice; Balcer 1980, 1981a, 1981b).

It has already been noted that in the early stages of the *TRB* the main raw material used was the imported 'chocolate' flint which accounts for between 30% and 80% in various assemblages. This was regularly supplemented by local flint from surface outcrops, but the majority of tools (between 43% and 84%) were made of the former (Balcer 1981a, 60). Because of its intermediate character this industry has been called 'mediolithic' (*Ibid.*, 62) and the main tools include scrapers and a variety of blades. Only a few microliths appear and axes have not as yet been identified in either finished or unfinished form (*Ibid.*, 62).

Further north, in Western Pomerania, the main sources of raw material were the local surface outcrops of various kinds of flint (Wiślański 1979, 222). Rügen flint is also commonly found but mainly in the form of finished products rather than of a supply of raw material.

Thin-butted axes are occasionally found and their distribution suggests extensive contacts (Siuchniński 1972, 87). Unfortunately most of them come from surface finds, and those recovered in archaeological contexts reveal ambivalent connections which do not determine the chronological and/or cultural position of the axes.

Towards the end of the 4th millennium bc fundamental changes occur in flint processing in the eastern and south-eastern groups. This phenomenon is associated chronologically with the already-mentioned expansion of the culture - both within the already settled areas and onto new territories (Kośko 1982, 58, Fig. 21) - and with changes in the economic strategy of the *TRB* (Kruk 1980, 309). Indeed the development and subsequent *flourit* of the south-eastern group may, in large measure, be related to the existence of flint resources in this area. Three elements are of particular importance: a change in the exploitation of primary sources of flint, the development of large-scale extraction and the macrolithisation of implements (Balcer 1981a). The importance of the 'chocolate' flint diminishes in favour of the grey white-spotted Świeciechów flint, and the extraction centres move from the north to the east of the Świętokrzyskie Mountains (Balcer 1976, 1981a). Together with Świeciechów flint, deposits of Wolhynian and banded flint become extensively used, although the latter was used mainly for axes and gained importance at a somewhat later stage (in the Globular Amphora culture).

The reasons for such a change are still not fully understood although many factors must have been involved. One reason may have been a desire, or need, for independent sources of raw material (Świeciechów flint had not been exploited by the *LBK* communities). Furthermore, the Świeciechów nodules are larger than those of 'chocolate' flint and its exploitation may be directly associated with a need for the production of large tools such as axes (15 - 17cm) and sickle blades (up to 30cm in length; Balcer 1976, 192). This change must have had a further influence upon the settlement pattern of the south-eastern group (the agricultural potential of the environment had to be offset against the distance from flint resources) and, although less tangible archaeologically, probably contributed to the growth of new



communities and opened up different networks of communication and exchange.

Balcer's study of the distribution of the Świeciechów flint gives some indication of the range and regularity of contacts between various groups (*Ibid.*, 192-195, Fig. 9). The quantitative distribution within the three-circle zones further implies the utmost importance of this raw material. The area of Kujavia, although nearly 300 km away from the primary sources, was a considerable importer of the Świeciechów flint; however, we cannot determine whether such contacts were new or formed a continuation of earlier (*LBK*) connections between the two regions.

In the technological processing of flint four phases have been distinguished: phase I - initial preparation; II - production of blanks and semi-finished products; III - final processing of tools; and IV - repairing and reshaping of implements (Balcer 1980, 89; Fig. 23). The identification of these stages in tool production has led to a hypothesis on the functional differentiation of sites (based on the study of flint assemblages) as well as to suggestions on the nature of social relations and on the networks of exchange between communities in different regions.

Three types of functionally differentiated sites have been distinguished: extraction sites (for example Świeciechów or Krzemionki Opatowskie), where initial processing takes place (phases I and II); the flint processing settlements (for example Ćmielów - 9 km south of Krzemionki and 22 km south-west of Świeciechów; or Zawichość - 14 km south of Świeciechów) where mass production of blanks as well as finished tools took place (mainly phases II and III); and the users' settlements where tools are generally not made but finished or repaired (Balcer 1980, 96-98; Fig. 23).

The *TRB*'s flint industry in this period suggests that incipient group specialisation would explain the distribution pattern (Fig. 24). Within this framework some communities would retain their self-sufficiency while those with no direct access to raw material sources would rely on supply through some form of exchange.

Distribution of raw materials and implements has been studied

in detail only for Świeciechów flint (Balcer 1976, Fig. 9) although artefacts of Wolhynian and banded flint seem to have a similar range. A model for such a distribution suggested by Balcer is of direct contacts between circles 1 and 2, and indirect contacts between 1 and 3. A similar, though as yet untested, pattern is suggested by the distribution

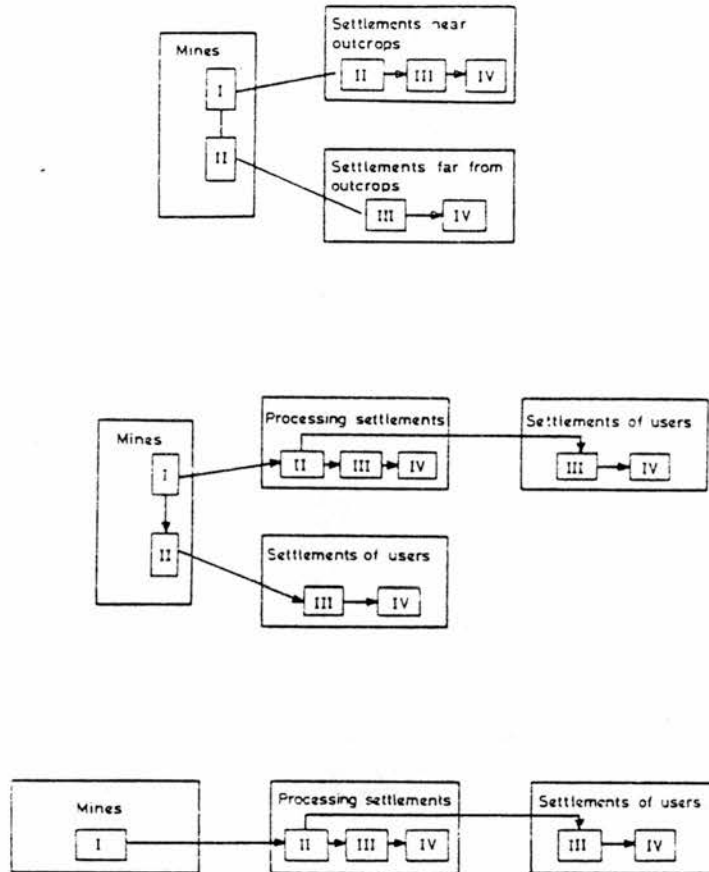


Fig. 24 A model of the development of specialisation in flint processing (from Balcer 1980)

of Rügen flint (Sulimirski 1960). Interestingly, the spheres of contact between these two centres occur in the area of Kujavia - which further strengthens the idea of wide-ranging and multi-directional contacts - although the problems of actual forms of exchange and of goods returned in exchange for flint still remain to be solved.



Part III

## CHAPTER 6

A SHORT HISTORY OF RESEARCH INTO EARTHEN LONG BARROWS

A review of the literature pertaining to the study of the North European megaliths makes it quite clear that the earthen long barrows did not escape early antiquarian interest, yet the history of their investigation as an individual and discrete form is difficult to trace. The interest found in the writings of Johan Picardt (1660), Johann Heinrich Cohausen (1714), Nicolaus Marschalk (c. 1510), Thomas Kantzow (died 1542) and Nicolaus Westendorp (1822) was of a very general nature, concerned primarily with speculation about the purpose of the megaliths, their builders and ways in which such structures were erected (Bakker 1979, chapter 2 and relevant notes; Schirinig 1979a).

Towards the end of the 18th and the beginning of the 19th centuries, achievements in the field of social and natural sciences created, particularly in Germany and Scandinavia, an intellectual climate of interest in local developments - folklore, historical past and antiquities - which among others generated investigations into megalithic remains.

From the beginning of the 19th century we know of investigations into the earthen long barrows from Mecklenburg and Western Pomerania. In Mecklenburg Captain F.W.Zinck - an official in the employment of Duke Friedrich Franz I - investigated, during the first decade of the century, about forty megalithic mounds in the districts of Schwerin, Hagenow, Parchim and Lübz, among which were the earthen long barrows of Siggelkow and Rothenmoor. Unfortunately most of his drawings have been lost and only brief notes may be found in *Friderico Francisceum*, published in 1837 (Schuldt 1972, 9).

In Western Pomerania, from 1825, particularly intensive and fruitful archaeological investigations were associated with the activities of the Szczecin local society, *Gesellschaft für pommersche Geschichte und Altertumskunde* (Siuchniński 1972, 11). It was on behalf of this society that von Plön conducted a survey of barrows in the district of Pyrzyce, although the results were not published until

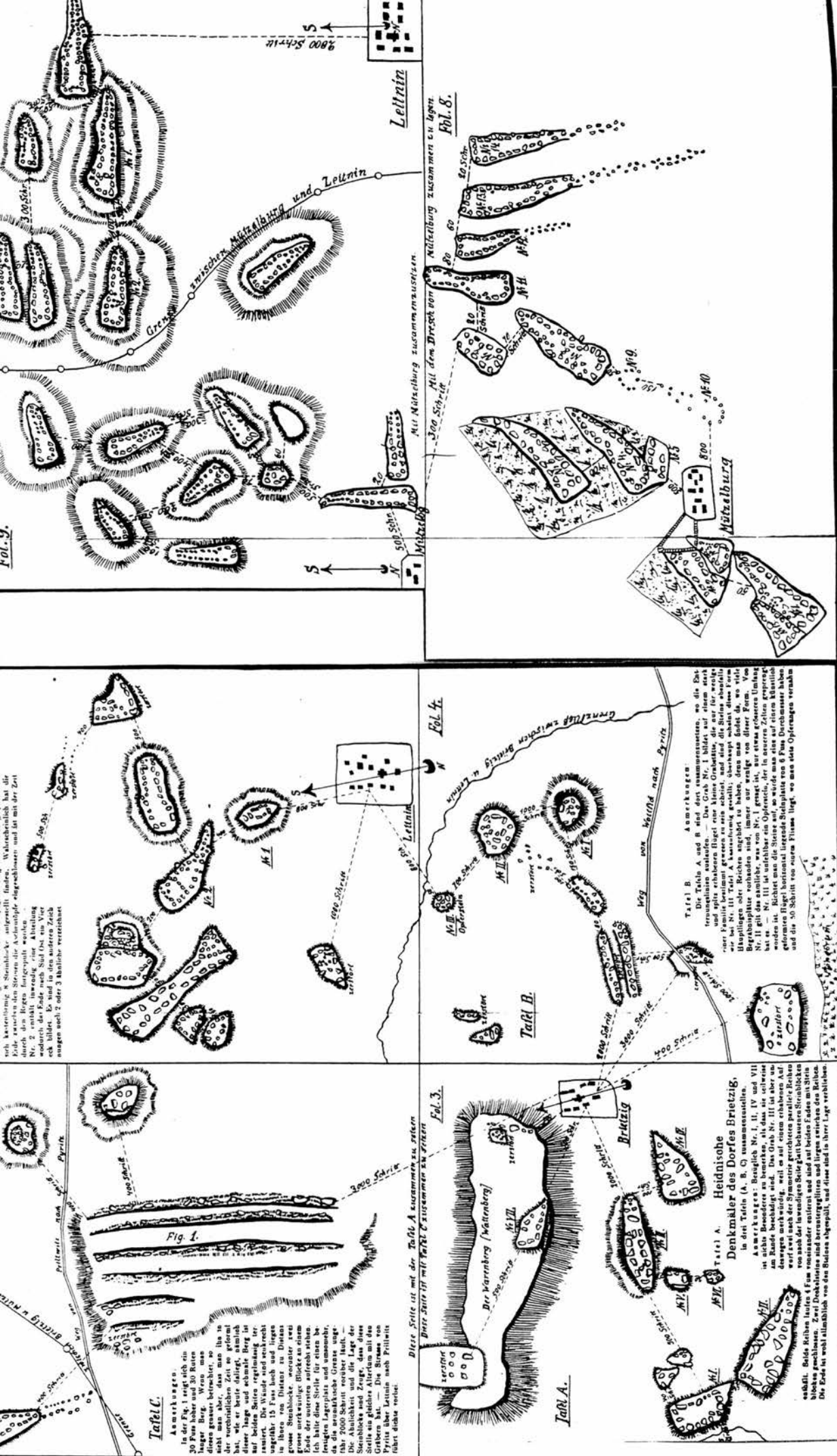


Fig. 25 Von Plón's survey of ELBs in the Pyrzyce district (from Holsten and Zahnow 1920)

nearly a century later (Holsten and Zahnow 1920). This survey, in addition to an inventory of barrows, included details of their location as well as descriptions of their external form; moreover von Plön drew plans of distribution in different localities, noting orientation and distances (Fig. 25). His survey is of particular value since nearly all the monuments have by now been destroyed - stones used for the construction of roads or buildings and mounds ploughed up.

In 1835 a similar society - *Verein für mecklenburgische Geschichte und Altertumskunde* - was established in Mecklenburg. Its founder, archivist F.Lisch, and pastor Ritter were among the more active members; Ritter in particular, in the years 1839-1843, investigated many earthen long barrows in the districts of Helm and Wittenburg noting many interesting details as well as commenting upon their destruction. By mid-19th century a similar concern about the destruction of megalithic monuments was expressed in Lower Saxony, where G.G.Carl von Estorff was engaged not only in the investigation, drawing and mapping of barrows in the Lüneburg area but also in the preservation of sites by purchasing them for the state (Schirinig 1979a).

Interest in the long barrows was also evident in Kujavia, where during the second half of the 19th century amateur excavators investigated a considerable number of sites (Chmielewski 1952, 9-11). Most active among them was a retired German general, von Erckert, who was the first to use the term 'Kujavian' grave and who excavated, albeit in a haphazard and totally unsystematic manner, very many long barrows in the district of Włocławek. His investigations were sadly very limited, concerned mainly with the speedy recovery of finds (he is said to have 'excavated' over thirty long barrows in one summer season) and therefore of little value.

At the turn of the 20th century and during the first two decades the trend of general investigations gave way to more detailed studies which, based on a broader spectrum of sources, attempted regional classifications. In Mecklenburg R.Beltz catalogued about 120 barrows (Beltz 1899) and subsequently, in another work, considered them in a wider context, dividing them into those with stone chambers, those without stone chambers (*Hünenbetten ohne Steinkammer*) and stone cists,

at the same time expressing regret that insufficient evidence prevented him from determining whether or not the lack of a stone chamber was an original feature (Beltz 1910).

In this context notable contributions were also made by O. Montelius (1903) who produced an outline of the Scandinavian Neolithic based on a typo-chronology of grave forms (dolmens/passage graves/stone cists). This scheme was subsequently followed by Kossina, who classified the megalithic graves in Northern Germany, including the Kujavian earthen long barrows which he believed were developed from the North German rectangular forms, thus reflecting a secondary stage of the colonisation of central Europe from the north (Kossina 1909/1910).

The first substantial work on the earthen long barrows was L. Kozłowski's publication of *Groby megalityczne na Wschód od Odry* (Megalithic graves east of the Odra; 1921). It followed closely the ideas expressed by Kossina but suggested that the groups which were responsible for the Kujavian long barrows were a mixture of TRB and Globular Amphora cultures.

A new phase of research into the earthen long barrows begins with the appearance of two major works, *Kultura pucharów lejkowatych w Polsce Zachodniej i Środkowej* by Jażdżewski (1936a) and *Die nordische Megalithkultur* by Sprockhoff (1938). Sprockhoff, discussing the northern long barrows - *die nordische Riesensteingräber* - distinguished the earthen long barrow form - *die Hünenbetten ohne Kammer* - (Sprockhoff 1938, 42) but considered them "...noch wenig geklärt" and, while noting their general distribution from Lauenburg to Western Pomerania, did not discuss them in detail.

Jażdżewski's work, on the other hand, was of fundamental importance for the study of the TRB culture and of the earthen long barrows in particular. On the basis of his own research and excavations at Leśniczówka (KUJ - 17) and Rybno (KUJ - 29), Jażdżewski was able to place the earthen long barrows in their proper cultural and chronological context. He refuted categorically their association with the Globular Amphora culture and showed that the primary burials in these monuments belong to the older phase of the TRB - this being further confirmed by the distribution of both barrows and other elements

characteristic of the eastern *TRB* group (Jażdżewski 1936a, 297). He also established the dual nature of the *TRB* burial by recognising the cultural and chronological unity of the earthen long barrows and flat grave cemeteries. On the subject of the origins of the Kujavian long barrows he expressed an opinion that they developed from the northern, rectangular forms, probably somewhere to the west of the Odra region - an opinion which, with greater or lesser conviction, he has always held.

In the early 1950's Sprockhoff excavated four earthen long barrows in the Sachsenwald (Sprockhoff 1952, 1954) and to this day these four remain the only sites of this type investigated in north-western Germany. He was also engaged for over twenty five years in cataloguing all the North German megalithic and related monuments - a mammoth task which resulted in three volumes of the *Atlas der Megalithgräber Deutschlands* (Sprockhoff 1966, 1967, 1975), each volume consisting of separate text and figures. Unhappily his death prevented the appearance of the final part, a discussion of all the material. Nevertheless, this extensive catalogue of the monuments is an extremely valuable source of information on the North German material.

In Kujavia, Chmielewski continued Jażdżewski's investigations into the earthen long barrows, excavating in the early 1950's one barrow at Gaj and six barrows at Sarnowo. His up-to-date assessment of the Kujavian barrows - *Zagadnienie grobowców kujawskich w świetle ostatnich badań* (Chmielewski 1952) is as yet the only work dealing with the problem of the earthen long barrows on a large scale. The work fully endorsed Jażdżewski's ideas about earthen long barrows, and its important contribution was the recognition of the early (now called Sarnowo, see chapter 5) *TRB* phase from the settlement remains preserved underneath one of the Sarnowo barrows.

Much credit for the wealth of information about the Kujavian long barrows must however go to Gabałówna, who meticulously excavated the three remaining barrows at Sarnowo (Gabałówna 1968b, 1968c, 1969a, 1969b, 1970a, 1970b, 1971). The interim reports from these excavations indicate the quantity of material which has been



recovered there. It is very sad that Gabalówna's premature death has prevented the final publication of the Sarnowo research, since it is clear that her personal involvement in and acute perception of the problems of the development of the *TRB* culture in Kujavia are unsurpassed.

Interesting and long overdue research is currently taking place in Western Pomerania, where a number of individual sites are being investigated around the Pyrzyce basin (Wiślański 1977 and *pers. comm.*) and at a settlement and barrow complex at Łupawa (Jankowska 1980, 1981). In Mecklenburg, as part of a massive project, over one hundred stone-chambered graves were excavated between 1964 and 1970 (Schuldt 1972), but only three were of the earthen long barrow type. The rather general nature of the discussions by Nilius (1971) and Schuldt (1972) of the Mecklenburg earthen long barrows, together with the scarcity of data from the barrows themselves, clearly indicates the need not only for more excavations but for a restructured research strategy.

In Denmark the investigation of the earthen long barrows as such is difficult to trace. Simple earth graves (*jordgrav*) were identified by Johansen (1917), and Thorvildsen further noted that about half of them were under earthen mounds (Thorvildsen 1941, 67). But it is only from the mid-1960s that new research projects, as well as a reappraisal of older excavation reports, have revealed a considerable number of sites which compare closely both with earthen long barrows to the south of Denmark and with those in the British Isles (Madsen 1979). It must be regretted that the data from many of these new projects are presently known only in a general form from interim reports.

Interesting information, although as yet difficult to assess, is also emerging from the southern area of the *TRB* culture - Little Poland (Gajewski 1953, Jazdzewski 1970a), the Saale region (Behrens and Schröter 1980) and Bohemia (Houštová 1958, Pleinerová 1980) - where monuments comparable to those from the north were not known until recently.

Finally it should be noted that the study of the earthen long



barrows within the *TRB* culture has generally been conducted on a regional basis, with little attention being paid to evidence from neighbouring regions. The only serious attempt to bring the evidence together has been made by Jażdżewski in a comparative essay presented to the 3rd *Atlantic Colloquium* at Moesgård in 1969 (Jażdżewski 1970a).

CHAPTER 7      EARTHEN LONG BARROWS: DISTRIBUTION AND GENERAL  
CHARACTERISTICS

7.1      INTRODUCTION

The phenomenon of the earthen long barrow in Northern Europe is associated exclusively with the *TRB* culture. The monuments are found in several concentrations which, in general, correspond to the regional groups of this cultural complex (Fig. 26). The main body of evidence discussed in this work comes from five regions: Kujavia (KUJ), Western Pomerania (WPOM), Mecklenburg (MBG), north-western Germany (here referred to as LSAX) and Denmark (DNK). Earthen long barrows from other regions, for example middle Germany (SAX), Bohemia, Moravia or Little Poland (LPOL) are referred to only in general discussion since the continuing paucity of evidence from these areas precludes detailed examination.

In contrast to previous regionally-oriented research into earthen long barrows (Chmielewski 1952; Madsen 1979; Schuldt 1972; Sprockhoff 1966, 1967, 1975) the present study cuts across regional boundaries and discusses certain aspects which are felt to demonstrate both the underlying unity of the earthen long barrow phenomenon and the independent, regional developments within this tradition. For this reason a balance has been attempted between detailed description of evidence and a more general assessment of architectural and ritual development within the earthen long barrow province. For a detailed discussion of individual barrows the reader is referred to the regional catalogue of barrows which are known from literature and from recent excavations and surveys (Appendix 2).

It is necessary here to comment briefly upon the nature of the evidence available for this study. Table 1 shows the relationship between the total number of barrows known in each of the main regions and the number of barrows which have actually been investigated, either in the 19th or early 20th centuries or in more recent times. In view of the number of monuments known in Kujavia and Western Pomerania it

Table 1. Numbers of investigated/excavated barrows in relation to total known, by area.

AREA	DEFINITE BARROWS	POSSIBLE BARROWS	TOTAL BARROWS	OLD EXCAV.	% OF TOTAL	NEW EXCAV.	% OF TOTAL	ALL EXCAV.	% OF TOTAL
KUJAVIA	103	3	106	14	13,2%	26	24,5%	40	37,3%
W. POMERANIA	174	129	303	6	2%	18	6%	24	8%
MECKLENBURG	40	1	41	18	44%	3	7%	21	51%
LOWER SAXONY	44		44	2	4,5%	5	11,5%	7	16%
DENMARK	26		26	6	23%	20	77%	26	100%
TOTAL	387	133	520	46	8,8%	72	13,8%	118	22,7%

is difficult to accept that a considerably smaller number of barrows from other regions can be a representative sample. Considering the many recent discoveries in Denmark (for example DNK-4, 6, 8, 10 or 16) as well as occasional new finds in Mecklenburg (MBG-1) it seems very likely that these low figures merely reflect inadequacies of research and archaeological survey. Moreover, it is becoming increasingly obvious that many barrows were re-modelled and altered in prehistoric times, and stone-built chambers are known to have been added to a number of barrows (for example DNK-22 or LSAX-6). In view of a general policy of limiting excavation to the area of a burial chamber and its immediate vicinity, it is highly probable that a number of monuments which were originally erected without a stone-built chamber may simply not have been recognised as such. Examples of barrows such as Oldendorf (LSAX-6) and possibly Tosterglope (LSAX-9) make it very obvious that total excavation of a monument is necessary before its history may be fully interpreted.

Of the total number of known barrows (both definite and possible) only 13,8% have been investigated in modern excavations (Table 1). With the addition of information available from 19th and early 20th century investigations, we still have details of construction and use from less than a quarter of all barrows (22,7%). When these numbers are considered in regional terms the disparity becomes dramatically clear. Among the five regions only the areas of Denmark and Kujavia may be considered as reasonably informative. The 100% excavation rate in Denmark results, however, from the fact that earthen long barrows were recognised as a distinct form only fairly recently and - with a few exceptions - the examples available for discussion represent discoveries of the last few years. The number of recently excavated barrows from Western Pomerania (18) is also misleading since 13 of them belong to the Łupawa complex (WPOM-25), which dates from rather late within the *TRB*, and evidence recovered here is not fully representative of development in the whole region.

Modern research into earthen long barrows is notably lacking in Mecklenburg and Lower Saxony. Two out of the three Mecklenburg examples were excavated by chance, because they were each located

within a major concentration of barrows with stone-built chambers which was the main object of the investigations (Schuldt 1966b, 1967). Apart from the excavation of the Sachsenwald earthen long barrows in the early 1950's (LSAX-8; Sprockhoff 1952, 1954) no significant research has been carried out in north-western Germany, although the publications of the *Atlas der Megalithgräber Deutschlands* (Sprockhoff 1966, 1967, 1975) show that this area has an excellent potential for research in the earthen long barrow field.

It is therefore obvious that the presently available evidence is far from adequate and the interpretation of the North European earthen long barrows will of necessity be fragmentary. Although it is felt that reconsideration of the available material may point towards a new direction in earthen long barrow research, many important questions will remain unanswered.

## 7.2 DISTRIBUTION OF THE NORTH EUROPEAN EARTHEN LONG BARROWS

An interpretation of the distribution pattern of earthen long barrows in Northern Europe can be considered only in very general terms. There are many reasons for this. Firstly, as has already been noted, it is not possible to determine to what extent the number of barrows currently known reflects the number of monuments originally constructed and new discoveries make it clear that we are observing only a fragmentary picture.

Furthermore, many sites that are known to us from 19th and early 20th century investigations have since been completely destroyed and their precise locations can no longer be established. This is especially true of many barrows in Mecklenburg, Western Pomerania and Kujavia. Precise location of existing sites is in many cases equally difficult because as a rule, excavation reports are not accompanied by national grid references. For example even the most recent excavation report from Kujavia gives details of location as "...to the S of the village on both sides of the road" (Gorczyca 1981, 1). Notable exceptions are von Plön's surveys of earthen long barrows in the district of Pyrzyce - with the distribution map published and appended in 1920 by Holsten and Zahnow - and entries in the three

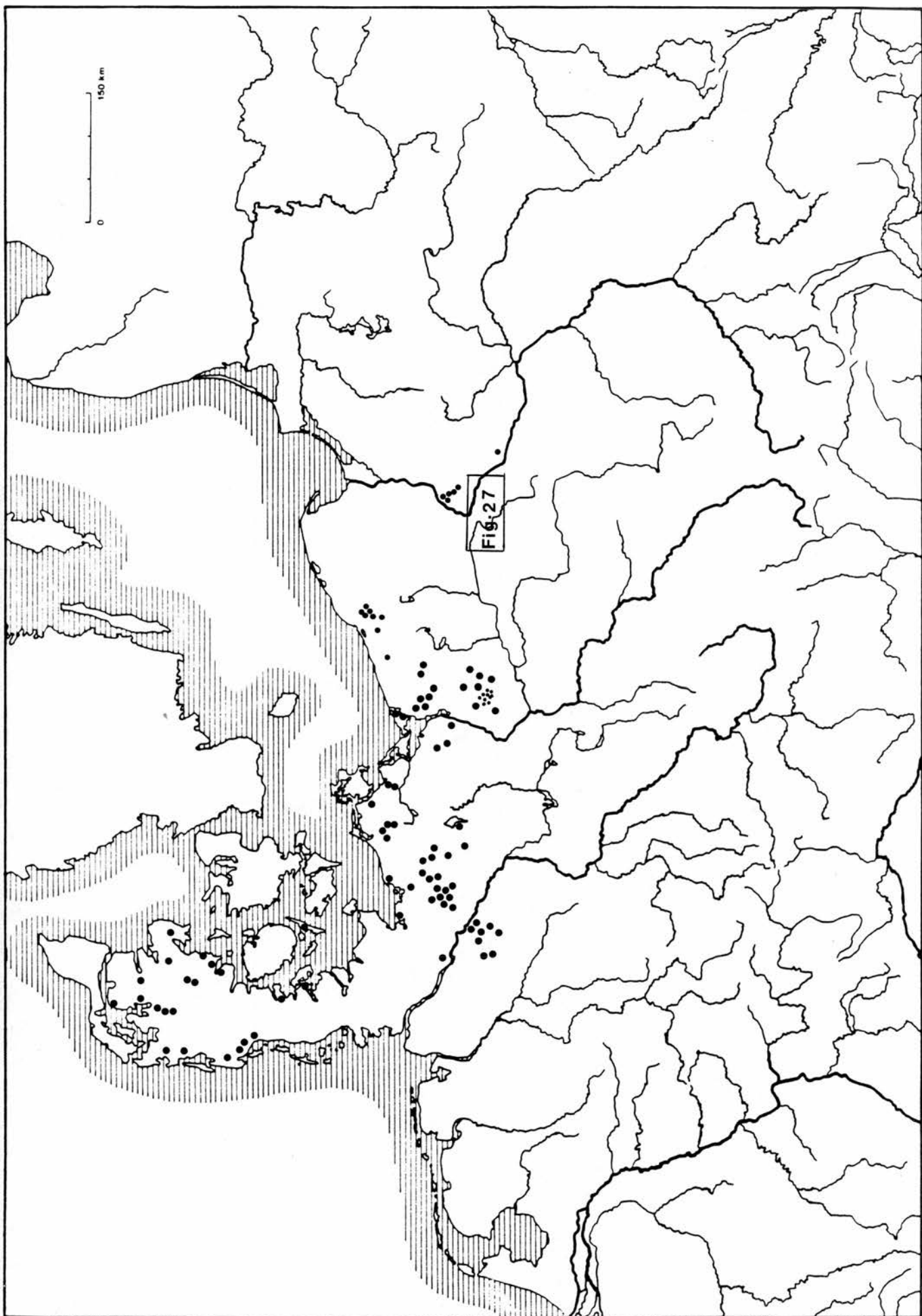


Fig. 26 Distribution of ELBs in the North European Plain

volumes of the *Atlas der Megalithgräber Deutschlands* (Sprockhoff 1966, 1967, 1975) which include 1:100 maps, although even here only sites which are still in existence are shown on maps.

In very few investigations of earthen long barrows has information been recorded about their immediate natural and cultural environment and, in many areas, a paucity of evidence and an inadequate understanding of the overall settlement pattern make the distribution of earthen long barrows even more difficult to interpret.

Notwithstanding these problems it is nevertheless possible to note the nature of the distribution pattern and to indicate general trends within it. The most obvious characteristic of the distribution of earthen long barrows in the North European Plain is their concentration in several discrete groups - in Kujavia, Western Pomerania, Mecklenburg, Lower Saxony and Denmark, and in smaller numbers also in Little Poland and Moravia - with, seemingly, only isolated monuments between the major regions (Fig. 26). In the most general sense such a distribution reflects the regional divisions within the *TRB* culture (Fig. 7) but the barrows identify even more closely with the regional formative centres, defining limited areas within each region. This is especially evident in Kujavia, where the barrows form a conglomeration within the heart of the eastern *TRB* group (Fig. 27), in Western Pomerania, where the main barrow density is around the Pyrzyce basin (Fig. 29) - one of the earliest and most heavily settled regions - and in the Sachsenwald in north-western Germany (Fig. 31b). The pattern is however less evident in Mecklenburg and in Denmark, where the distribution tends to be more diffuse (Fig. 31a and 32). In the last two areas barrows tend to be located individually or in pairs, while in the former regions the monuments concentrate in groups of between three and ten barrows; even larger concentrations of up to a hundred barrows are known from 19th-century reports in Western Pomerania (Siuchniński 1969, 123; WPOM-37).

In Kujavia the majority of sites are located in the central part of the region - sometimes known as the Kujavian lake district - between the boggy valley of the Noteć river to the west and the smaller Lubrańiec river to the east (Fig. 27). The landscape in this part of Kujavia



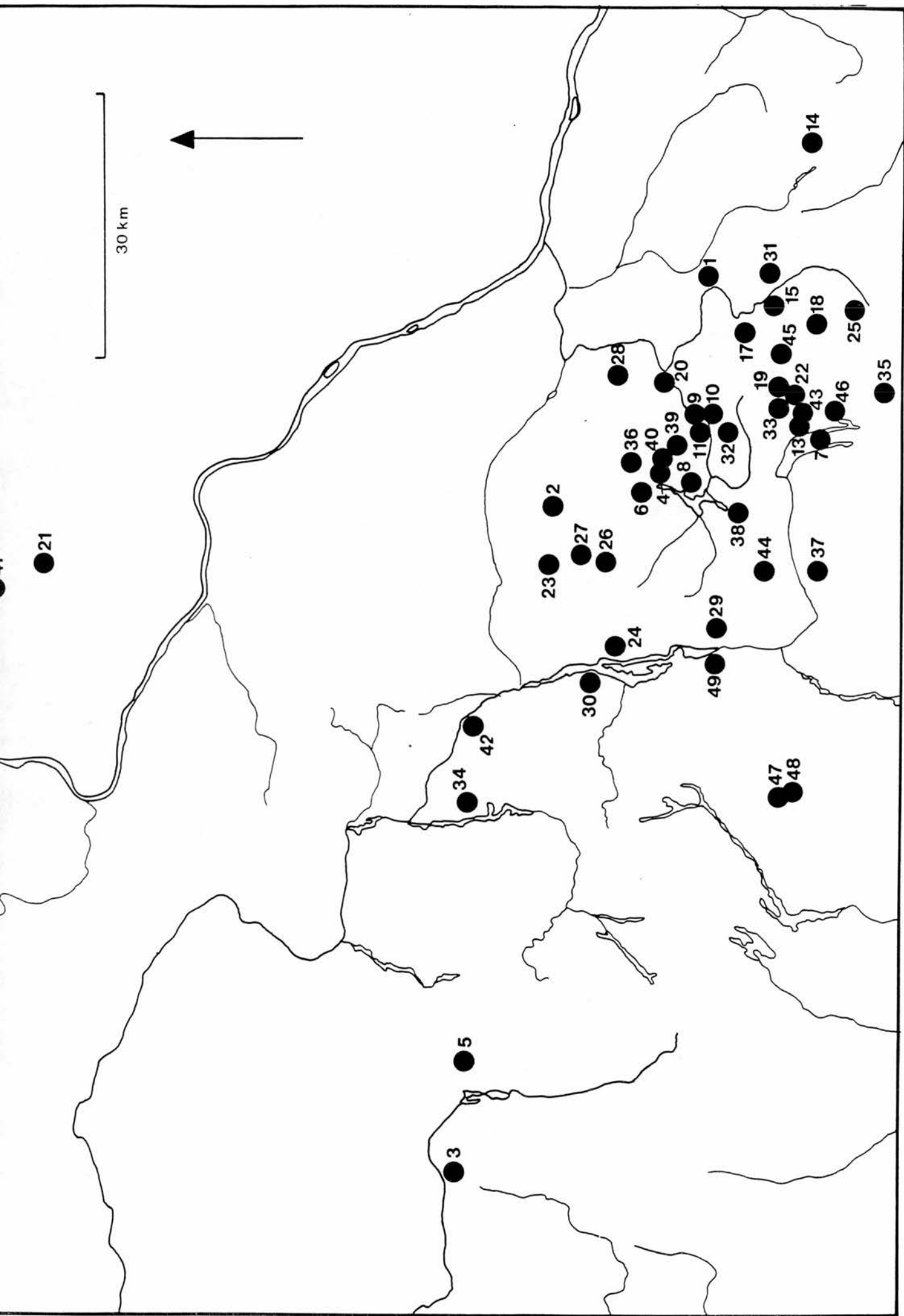


Fig. 27 Distribution of ELBs in Kujavia

is gently undulating, with small elevations within an area of many slow-flowing rivers and streams, lakes and marshy meadowland. A comparison with the general distribution of the *TRB* culture in Kujavia shows that the barrows occupy the heartland of the *TRB*'s distribution in this region, concentrating mainly in an area of about 40 by 50 km (Wiślański 1969, Map 4). Within this area the barrow distribution (Fig. 27) is not uniform but forms additional concentrations along the edges of river valleys or lake shores, for example along the valley of the Zgłowiączka river (KUJ-9, 10, 11, 20, 32), and along the shores of the lakes of Głuszyn (KUJ-4, 6, 8, 38), Gopło (KUJ-24, 29, 30, 49) and Długie (KUJ-7, 13, 43, 46). Others are found on elevated parts of largely boggy and marshy meadowland between the rivers (KUJ-17, 18, 19, 33, 45).

Precise details of location within the landscape are available for a few sites only but general observations suggest that certain principles of siting are observed throughout the region. The Sarnowo complex - a long barrow group (KUJ-32), a settlement site (Sarnowo 1A) and a flat grave cemetery (Czamaninek) - is situated on natural elevations within relatively flat surroundings (Sadłowska 1971). The barrow site is situated about 600m south of Zgłowiączka, on the edge of the higher terrace, and 4 - 5m above the valley of the Zgłowiączka's nameless tributary stream. The settlement site and Czamaninek cemetery are in similar locations.

Similar observations apply to other sites. The Obałki barrow group (KUJ-22) was located upon a sandy elevation within a large expanse of boggy, marshy meadowland, Wietrzychowice (KUJ-45) on a small hill within a flat area of ground moraine, and Leśniczówka (KUJ-17) on a sandy hill adjacent to peaty meadowland stretching between small lakes. Two general principles of location are thus predominant: association with higher and drier elevations in a relatively flat immediate environment, and proximity of water sources - rivers, streams and lakes - all reflecting general suitability of chosen location for settlement.

The distribution of earthen long barrows in Western Pomerania reflects the pattern observed in Kujavia in so far as it is contained within areas smaller than that occupied by the rest of the culture (Fig. 28). Primary conglomerations of sites are found on the Łupawa

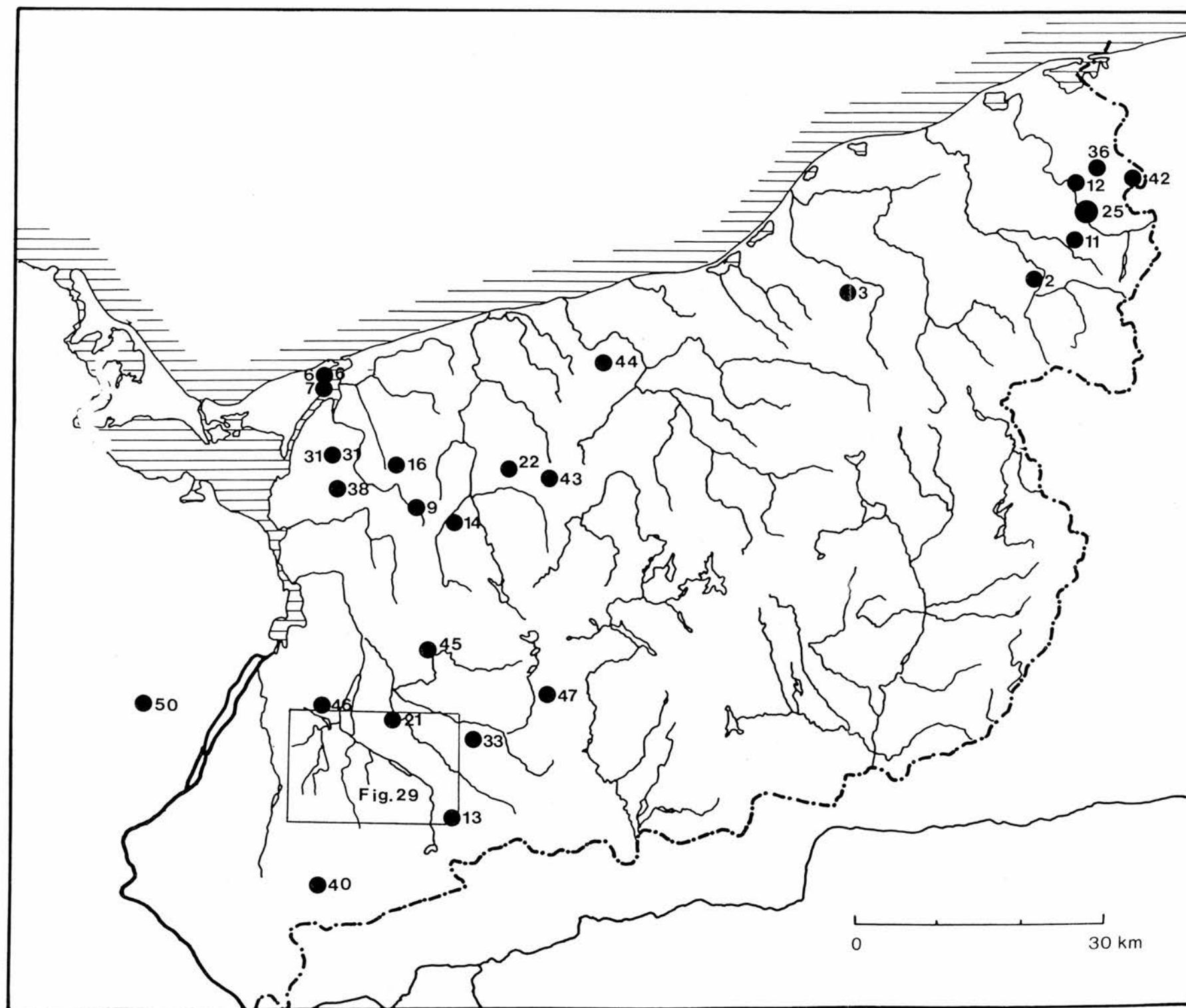


Fig. 28 Distribution of ELBs in Western Pomerania



Fig. 29 Distribution of ELBs in the district of Pyrzyce (key overleaf)

Key to Fig. 29

1) Peat, marl and marsh

Valley and basin:

2) Marly sand

3) Clayey marl

4) Sand

Interfluve:

5) Boulder clay

6) Sand over boulder clay

7) Sand

(Source - Holsten and Zahnow 1920 with additions).



Fig. 30 Karsko (WPOM-15), illustrating typical barrow location (1), overlooking the Pyrzyce basin (2)



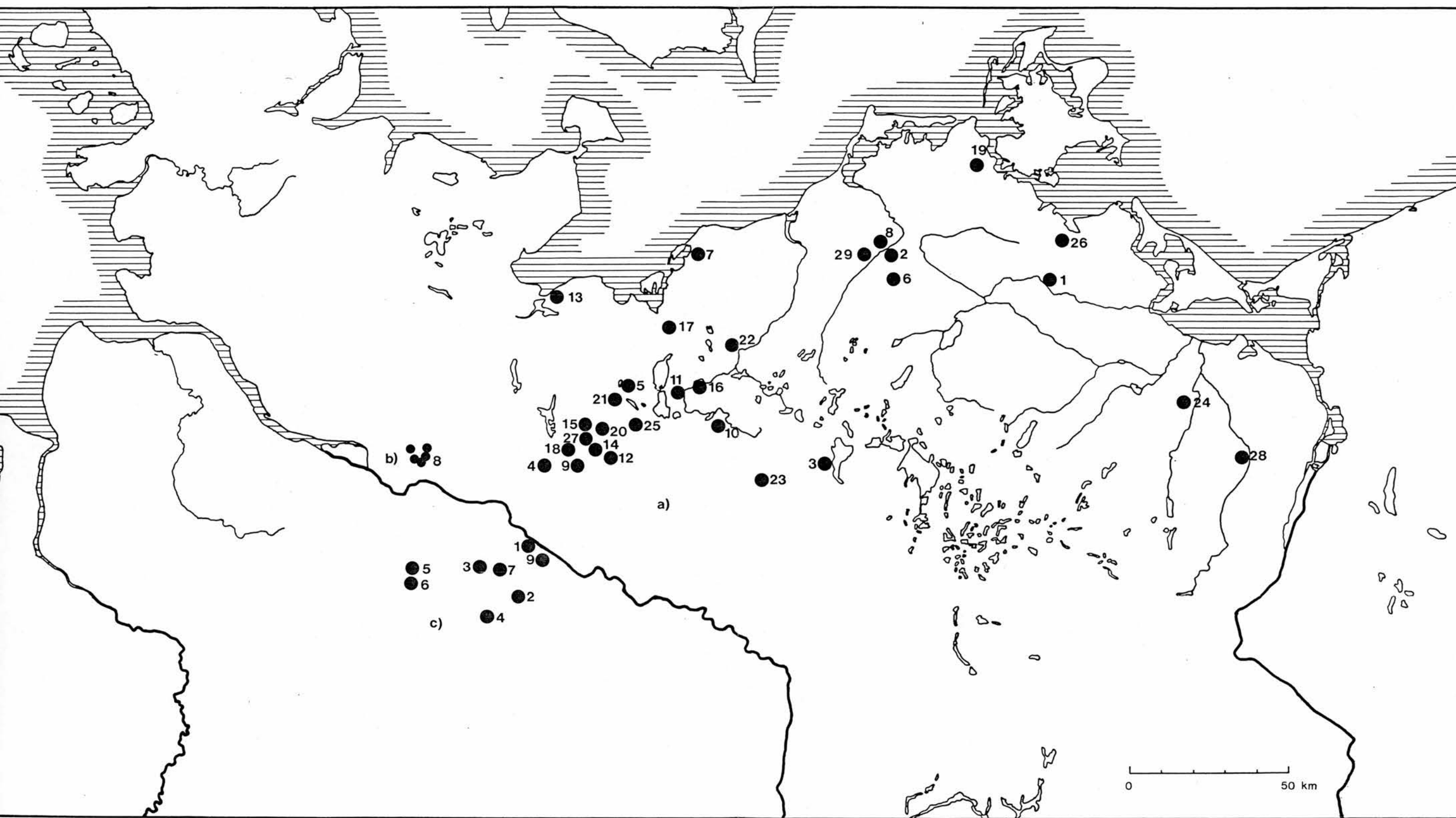


Fig. 31 Distribution of ELBs in North Germany



river and around the Pyrzyce glacial basin. The distribution of the barrows around Pyrzyce - most of which have been destroyed - is relatively well known from von Plön's surveys (Fig. 25). It reveals that the majority of barrow sites were located at the edge of the higher ground which surrounds the Pyrzyce basin (Fig. 29) - mainly on boulder clays of terminal moraine - occasionally reaching on to interfluvies as far as local watersheds. The sites show linear distribution along rivers and streams, occasionally forming whole chains of cemeteries along the edges of the upland.

As in Kujavia, so also in Western Pomerania we are faced with the interpretation of this pattern as reflecting either a relatively dense contemporaneous settlement or a gradual spread of the settlement over a relatively long period of time. In Western Pomerania, the alarming paucity of evidence as well as the almost total destruction of the prehistoric landscape leave this problem, at least for the time being, unsolved.

Identical difficulties beset the interpretation of the distribution pattern in north-western Germany, especially in the areas of the Sachsenwald (Figs. 31b and 32). Here sites of up to ten barrows are located upon boulder clays and sandy clays, forming individual clusters between 2 and 4 km apart, along the higher terraces of the rivers Bille and Aue. Sprockhoff interpreted this pattern as indicative of several contemporary communities occupying the region (Sprockhoff 1954, 10), but since only one group - the Alter Hau - has been investigated the chronological relationship between the clusters is unknown and more information is necessary to either support or refute this suggestion.

The distribution of earthen long barrows in Mecklenburg, with the exception of a few monuments in the north and north-east, is also confined to a relatively small area (Fig. 31a). The majority of barrows are found on the sandy/clayey soils of south-western Mecklenburg, especially between the rivers Schaale and Süde, and a number are also found around the Schweriner See. In contrast to the previously described regions, the Mecklenburg barrows do not form numerically large clusters ('cemeteries') but are found scattered singly (for example (MBG-12, 15, 17, 25), in pairs (MBG-4, 18, 23) or at a maximum of three

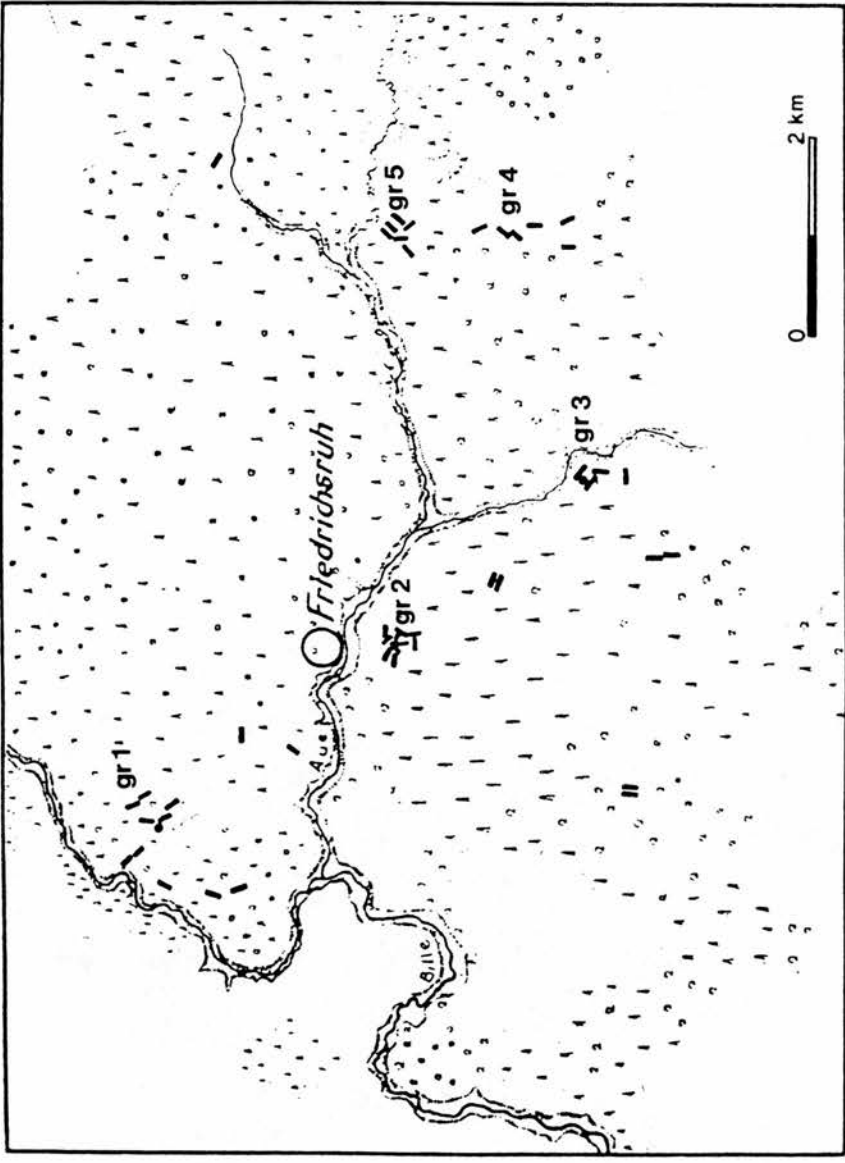


Fig. 32 Distribution of ELBs in the Sachsenwald (LSAX-8) showing discrete barrow groupings (after Sprockhoff 1954)

190.7

(MBG-9) in one locality. In this respect the distribution corresponds to a similar dispersal of barrows on the Lüneburger Heide (Fig. 31c).

In view of the generally sparse evidence of the *TRB* culture in these areas it is difficult to determine whether the dispersed distribution reflects a less dense and possibly later settling of south-western Mecklenburg and the Lüneburger Heide, or a different settlement strategy from that which resulted in a clustered barrow distribution (for example of about thirty barrows in the Sachsenwald). It is interesting to note that the barrows of south-western Mecklenburg and of the Lüneburger Heide are at a similar distance from the Sachsenwald concentration and may indeed represent an extension of the *TRB* settlement from around the Elbe estuary. Until more data pertaining to chronology and settlement are available, however, the earthen long barrow distribution patterns in northern Germany cannot be fully assessed.

Although the Danish earthen long barrows presently known are likely to represent only a fraction of the original number, their distribution is fairly distinctive (Fig. 33). As in Mecklenburg, the barrows tend to be dispersed in the landscape, found either singly (for example DNK-3, 4, 10) or in pairs (DNK-2, 12, 18) and no clustering of monuments is observed. Inland sites are few in number (DNK-14, 15, 16, 17); the location is predominantly coastal.

A recent survey of the *TRB* settlement of eastern Jutland (Madsen 1982) suggests that, during the early phase of the *TRB* culture, the settlement pattern continued the principles of Late Mesolithic land use of close association with the coast, rivers and lakes (*Ibid.* 204-205). Grave distribution reveals a close dependence upon the coast (the majority were found to be located within 4 km distance from the shore; *Ibid.* 215, Fig. 12) and on water sources (up to 1,5 km distance on average; *Ibid.* 215, Fig. 13). Moreover the sites were also located predominantly in areas which offered greater opportunities for the exploitation of a variety of environments (*Ibid.* 217), further underlining the continuity from Late Mesolithic to Early Neolithic.

It would be incorrect to regard the findings of the above-mentioned survey as fully representative of the earthen long barrow

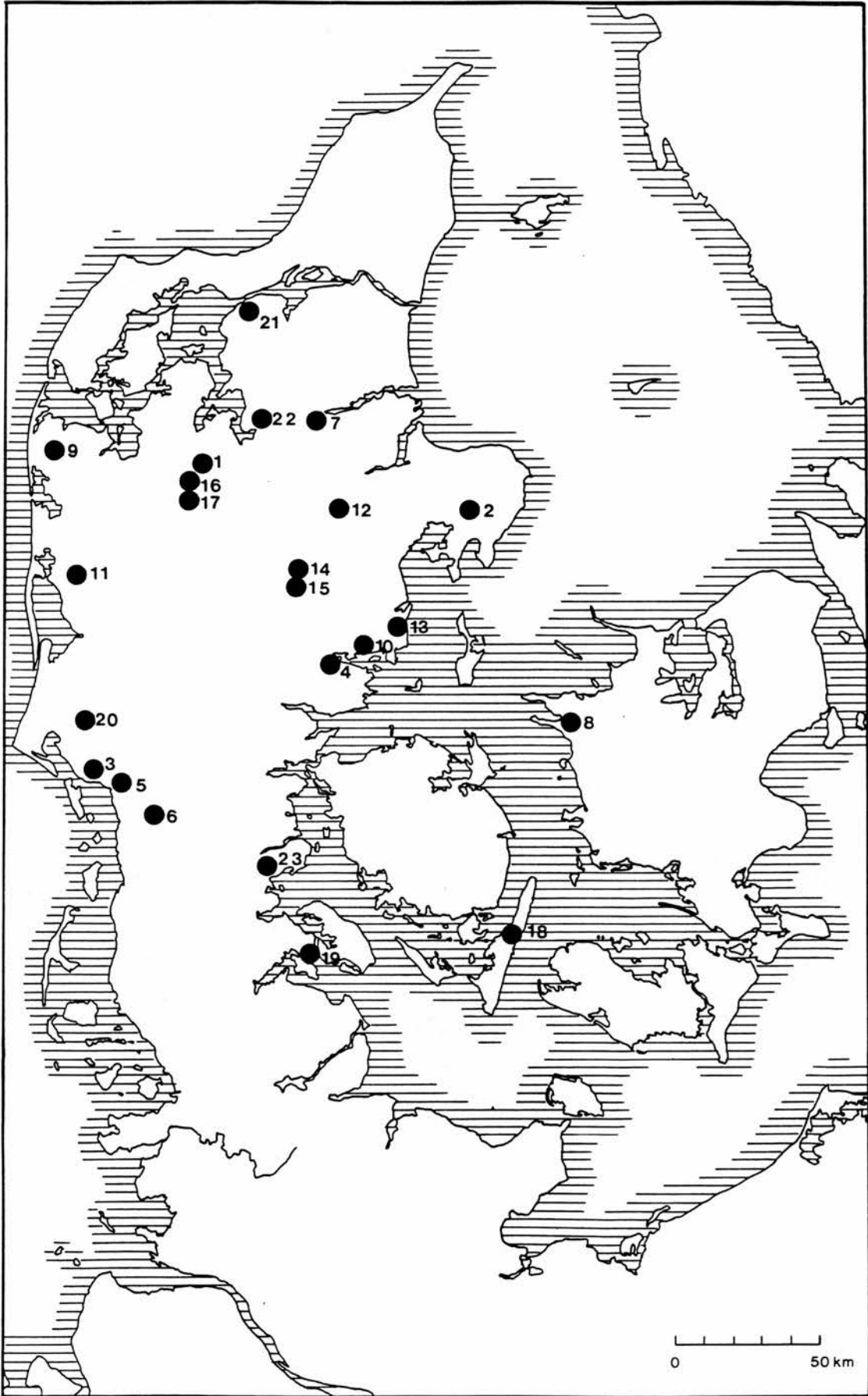


Fig. 33 Distribution of ELBs in Denmark

distribution pattern of the whole of Denmark, since varying local conditions would undoubtedly influence the specific location of sites. The relationship of earthen long barrows with the coast is, however, very clear; some sites which today appear to be more inland were once much closer to the shore (for example the Barkaer barrows are situated on a hill which used to be an island in an inlet of the Kolind Sund but is now completely drained and cultivated; Glob 1949, 1) indicating that early *TRB* settlement here was dependent not only on farming but on coastal and estuarine exploitation as well.

Comparison of the earthen long barrow distribution in the five main regions reveals interesting differences as well as similarities. It is very difficult to interpret the significance of clustered as opposed to dispersed distribution since in all regions there is still a considerable lack of evidence of contemporary settlement sites which could help to explain such differences. It may however be observed that the clustering of barrows into 'cemeteries' is typical of areas where *TRB* communities co-existed with the Late *LBK* groups (*eg.* Kujavia and Western Pomerania) or possibly Rössen (north-western Germany) and it is possible that this phenomenon is the result of a relationship between these two cultural complexes rather than of differences within the *TRB* culture itself (see also comments in chapter 10). A common denominator of the earthen long barrow distribution is their predominant association with the sandy/clayey morainic soils, which is entirely consistent with the economic exploitation of a mixed forest environment (chapter 5).

Another important aspect of the location of earthen long barrows is the relationship between the barrows and contemporary settlement sites. It is very difficult to relate specific monuments to contemporary settlement sites since in most instances material evidence associated with settlements and barrows is not suitable for detailed comparisons. Recent investigations of the Łupawa settlement complex (WPOM-25; Jankowska 1980, Weber 1983) do, however, offer some information.

The Łupawa complex consists of one permanent settlement (Pogani-ce 4) and three 'cemeteries' (WPOM-25, sites 3, 4 and 5; Fig. 34). The same principles of location apply to the settlement and 'cemeteries', with all sites located on the highest terrace of the Łupawa river

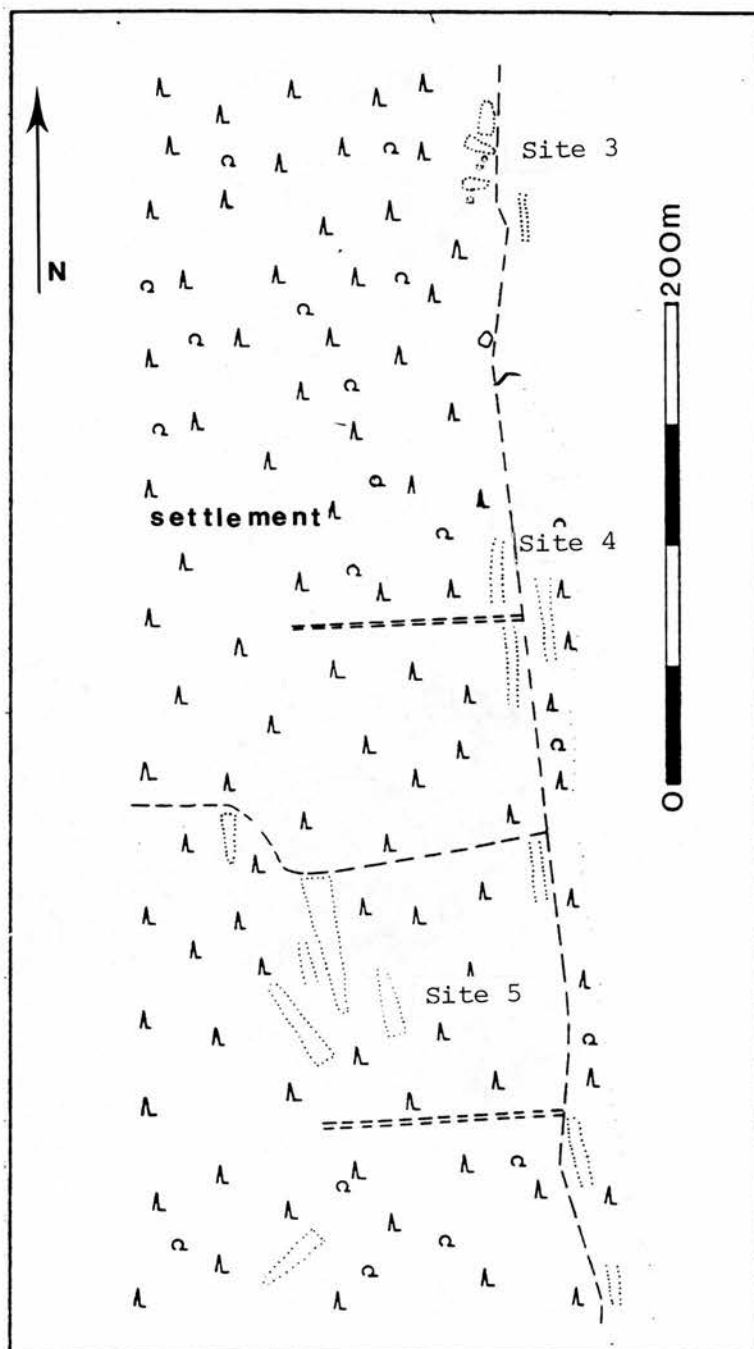


Fig. 34 Lupawa barrow complex (WPOM-25), showing the position of barrow groups in relation to settlement site

(Jankowska 1980, 77; Weber 1983, Map 2). The settlement site was about 200m east of the river and the 'cemeteries' were located about 100m to the east and south-east of the settlement. Traces of ploughing preserved underneath one of the barrows suggest that the area may originally have been cultivated and when the field was no longer suitable for cultivation the cleared land was used for the construction of a 'cemetery' (Jankowska 1980, 94). Although the ceramic material associated with the barrows is much poorer than that recovered from the settlement, it has been suggested, on the basis of the stylistic development of the ceramic forms, that the larger structures (*i.e.* barrows) were erected during the earlier phases of the settlement while in the later period the spaces between the barrows were 'filled-in' with the so-called 'mini-megaliths' (Jankowska 1980, 101; Weber 1983, Table 2).

Thus the Łupawa settlement complex shows the contemporaneous existence of a settlement and its necropolis - although it is not possible as yet to determine whether all three 'cemeteries' are contemporary or whether they represent a sequential expansion around the settlement as cleared land became vacant of agricultural activities. It must however be borne in mind that the Łupawa complex dates to late within the *TRB* (Appendix 1) and also represents a relatively isolated settlement, far from the developing centres of Kujavia and the Pyrzyce basin. Although it remains to be seen how far the observations made at Łupawa may apply to other regions, it is nevertheless clear that only a complete investigation of the settlement of a specific region will provide information sufficient to allow the interpretation of a settlement pattern in both chronological and spatial terms.

Such a contemporaneous relationship between settlement sites and earthen long barrows is not currently documented in other areas, but another pattern of relationships also emerges with remarkable regularity. Throughout the earthen long barrow province there is evidence of barrows being located directly upon earlier settlement sites. Examples of such locations are documented in Kujavia (for example KUJ-7, 22, 32), Western Pomerania (WPOM-50), Mecklenburg (MBG-28), Lower Saxony (LSAX-9) and Denmark (DNK-2, 12 18). Possible interpretations of such locations in terms of the ritual associated with earthen long barrows



and of the relationship between different communities within a particular region are offered later (chapters 8 and 10). For the time being it will suffice to note that such a widely attested location of barrows upon settlements can hardly be accidental, but must reflect consistencies within the *TRB* locational strategy that are only now becoming apparent.

### 7.3 DIMENSIONS OF THE NORTH EUROPEAN EARTHEN LONG BARROWS

Since nearly all earthen long barrows have suffered severely from erosion, destruction or amateur investigations it is difficult to estimate how far their length and width reflect the original dimensions. Many of the data presented in this section have been extracted from old reports (for example in Mecklenburg and Western Pomerania), and even modern excavation techniques cannot always establish the original dimensions with accuracy (Gabałówna 1969a, Gorczyca 1981, Wiślański 1977).

Analysis of the data (Fig. 35a-e, Table 2a-e) shows that barrows in Kujavia differ considerably from those in other regions both in the range of their length and in the distribution within that range. The overall range is from c. 30 to 170m in length (Fig. 35a, Table 2a; one or two barrows at either end being somewhat dubious) and thus the largest of them are among the longest earthen long barrows in Northern Europe. About 40% of barrows are between 60 and 80m long, and only 18,4% are shorter than 35m. Some extremely long monuments are known in Kujavia, and although they only constitute 18,4% of the total number, their actual lengths (of between 115 and 170m) are hardly equalled elsewhere.

Among the Western Pomeranian long barrows (Fig. 35b, Table 2b) the most common range of length is between 25 and 45m and this includes just under half of those barrows for which dimensions are known (48,7%). Only 12,2% reach lengths of over 50m and 58,5% do not exceed 35m. Thus very clearly the general trend is for barrows here to be shorter than in Kujavia. A comparison between Mecklenburg and Lower Saxony gives results similar to the above. Of the Mecklenburg barrows (Fig. 35c, Table 2c) 60% reach only up to 35m in length but only 15% exceed 60m. Most barrows in Lower Saxony (Fig. 35d, Table 2d) are between 10 and 50m in length (77,3%) - roughly corresponding to the situation in Western Pomerania - and only 13,6% are longer. The earthen long barrows of Denmark (Fig. 35e,

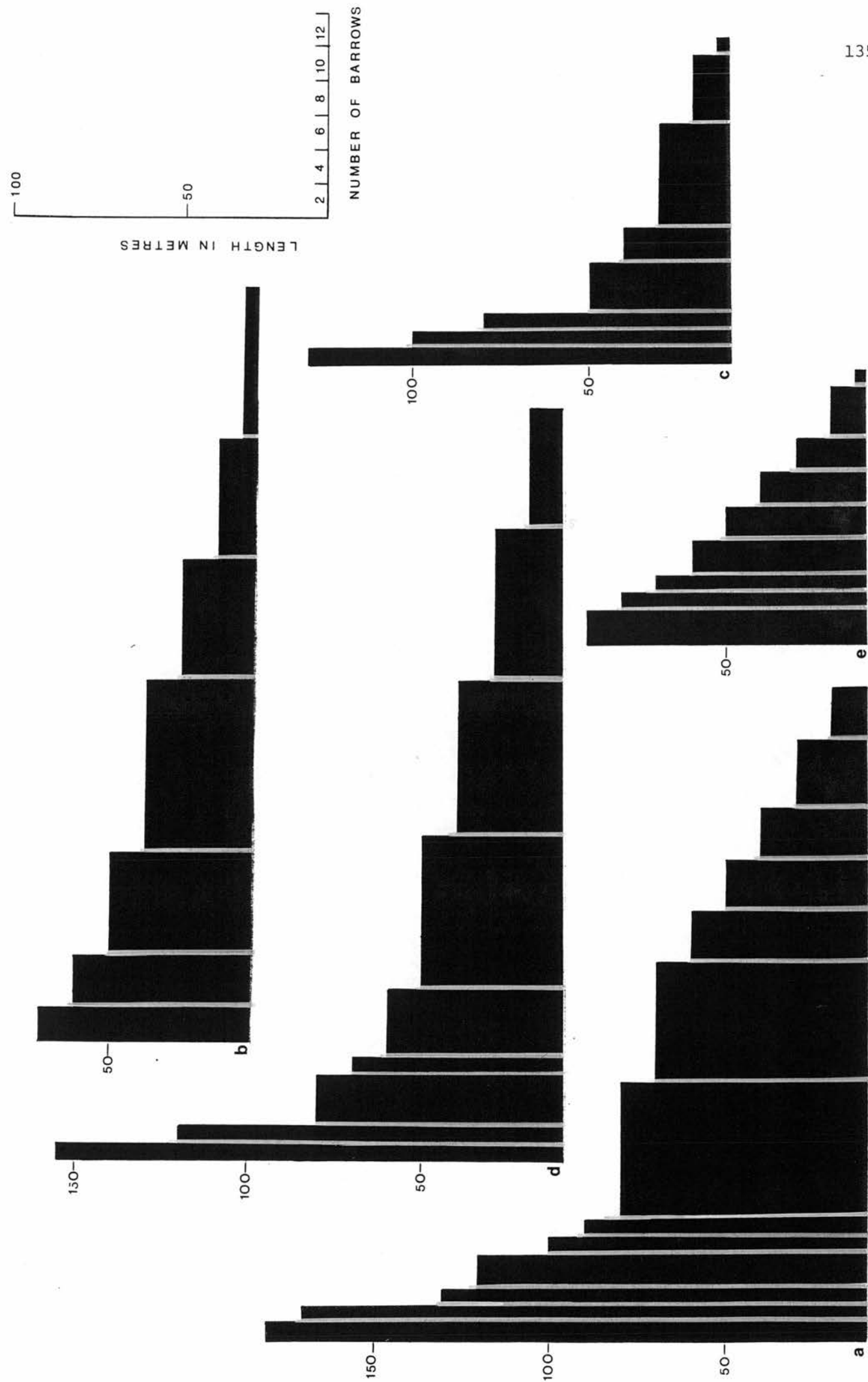


Fig. 35 Diagram of length of barrows: a) KUJ, b) WPOM, c) MBG, d) ISAX, e) DNK

Table 2a. Dimensions and orientation (indicating direction of broader end) of ELBs in Kujavia (dimensions in metres).

BARROW	LENGTH	WIDTH	ORIENTATION									
			S	SSE	SE	ESE	E	ENE	NE	NNE	N	W
KUJ - 4							x					
KUJ - 6	25											x
KUJ - 7/1	125	10,5					x					
7/2							x					
KUJ - 8/1	18+	8	x									
KUJ - 9/1	115	8					x					
KUJ - 10							x					
KUJ - 11			x									
KUJ - 13	80											
KUJ - 14	40?	10?										
KUJ - 17/1	71,5	8,5						x				
17/2	70	9						x				
17/3	70	9						x				
17/4	27,5	8,5							x			
KUJ - 19		12					x					
KUJ - 21/1	60	10							x			
21/2	68	10										
KUJ - 22/1	63+	12				x						
22/2	65	11				x						
22/3	65	10				x						
22/4							x					
KUJ - 28	38+	14										x
KUJ - 29	50	9					x					
KUJ - 30/1	170?						x					
30/2	45						x					
KUJ - 32/1	77	12						x				
32/2	83	12						x				
32/3	38,5	9,5						x				
32/4	80	11						x				
32/5	76	9,5						x				
32/6	60	11,5						x				
32/7	75	10								x		
32/8	71	12						x				
32/9	30?	8						x				
KUJ - 34							x					
KUJ - 40/1	17	10	x									
40/2	27?	15			x							
KUJ - 41								x				
KUJ - 44					x							
KUJ - 45/1	76	10		x								
45/2	93	9		x								
45/3	115	10			x							
45/4	30?	6,5				x						
45/5	47?	7,5				x						
KUJ - 47	57	11				x						
KUJ - 48/1	70	6				x						
KUJ - 49	160?						x					

Table 2b. Dimensions, orientation and shape of ELBs in Western Pomerania (dimensions in metres).

BARROW	LENGTH	WIDTH	ORIENTATION				SHAPE
			N-S	E-W	NE-SW	SE-NW	
WPOM - 3	31	11		x			Rectang.
3/2	29	9		x			Rectang.
WPOM - 4			x			x	Rectang.
				x			Triang.
				x			Rectang.
				x			Rectang.
					x		Rectang.
					x		Rectang.
						x	?
					x		?
WPOM - 8/1	36	9					Triang.
WPOM - 10(3)	53	7,5		x			?
10(4)	50+	7			x		Triang.
WPOM - 11/2	17	6-4	x				Trapez.
WPOM - 12/1	c.25			x			Rectang.
12/2	c.25			x			Rectang.
WPOM - 13	26	9		x			Triang.
WPOM - 14/1	24	6,5					Triang.
14/2	40	6,5					Triang.
WPOM - 15/1	43	8-3		x			Triang.
15/2	45	5+		x			Triang.
WPOM - 16/1	15	7		x			Trapez.
16/2	45	4		x			Trapez.
16/3	35	5	x				Trapez.
16/4	18	7		x			Trapez.
WPOM - 17/1	31	7,5		x			Triang.
WPOM - 18/1						x	Triang?
18/2						x	Triang?
18/3						x	Triang.
WPOM - 19				x			Triang.
19					x		Triang.
WPOM - 20	60	9		x			Triang.
WPOM - 21/1	150?	3,5					Triang.
21/2	30	3,5					Triang.
WPOM - 22				x			Triang.
				x			Triang.
				x			Triang.
WPOM - 23	23	6		x			Triang.
				x			?
				x			?
WPOM - 24				x			Triang.
				x			Triang.
				x			Triang.
				x			Triang.

BARROW	LENGTH	WIDTH	ORIENTATION				SHAPE
			N-S	E-W	NE-SW	SE-NW	
WPOM - 24				x x x			Triang. Triang. Triang. Rectang. Rectang. Rectang. ?
			x x x		x		?
						x	Triang.
						x	Rectang.
						x	?
						x	?
WPOM - 25/2	32,5	7-4				x	Trapez.
25/3	33	5,5-4,5				x	Trapez.
25/4	24,5	7-5,5	x				Trapez.
25/5	24,5	6,5-3			x		Trapez.
25/6	24,5	7-5				x	Trapez.
25/7	23,5	6,5-4				x	Trapez.
25/8			x				Trapez.
25/9	30	8,5-3,5		x			Trapez.
25/14					x		Trapez.
25/15	15	6-4	x				Trapez.
25/16	13	4-3				x	Trapez.
25/17	7	4-3		x			Trapez.
25/18	20	3	x				Trapez.
25/19	2,4	3-2,4		x			Trapez.
25/20	2,4	1,6	x				Rectang.
25/21	2,8	1,2-1				x	Trapez.
25/28	65	11-5	x				Trapez.
25/29	45	7-3,5	x				Trapez.
25/30	39	7-3		x			Trapez.
WPOM - 28			x				Triang.
			x				Triang.
			x				Trapez.
			x				Triang.
			x				Triang.
			x				Triang.
				x			Triang.
				x			Rectang.
					x		Triang.
					x		Trapez.
					x		Trapez.
					x		Triang.
					x		Triang.
					x		Triang.
					x		Triang.
					x		Rectang.
					x		Triang.
					x		Triang.
					x		Triang.
					x		Triang.

BARROW	LENGTH	WIDTH	ORIENTATION				SHAPE
			N-S	E-W	NE-SW	SE-NW	
WPOM - 28					x x		? Triang.
						x	Triang.
						x	Triang.
						x	Triang.
WPOM - 30						x	Rectang.
						x	Rectang.
						x	Trapez.
WPOM - 33/1	15						Triang.
33/2	8						Triang.
WPOM - 34					x x x		Triang. Triang. Triang.
WPOM - 37				x x x x x x			Triang. Triang. Triang. Triang. Triang. Triang.
						x	Triang.
						x	Rectang.
WPOM - 39						x	Rectang.
						x	Rectang.
						x	Rectang.
						x	Rectang.
WPOM - 47	40	12		x			?
WPOM - 48	8	3					Triang?
WPOM - 49				x x x			Rectang. Rectang. Rectang.
WPOM - 50	35	6		x			Triang.

Table 2c. Dimensions, orientation and shape of ELBs in Mecklenburg.  
(dimensions in metres).

BARROW	LENGTH	WIDTH	ORIENTATION				SHAPE
			N-S	E-W	NE-SW	SE-NW	
MBG - 1/1	c. 80						
MBG - 2	26	6				x	Rectang.
MBG - 4/1	32,5	3,25	x				?
MBG - 5	31	4,8		x			Rectang.
MBG - 7	13,5	5		x			Rectang.
MBG - 8	22	4		x			Rectang.
MBG - 9/1	24	5,5		x			Rectang.
9/2	23	6		x			Rectang.
9/3	33	5,5		x			Rectang.
MBG - 12/1	15	1,5	x				Rectang.
12/2	15	1,5	x				Rectang.
MBG - 14	16	7		x			Rectang.
MBG - 15	50	8		x			Trapez.
MBG - 16	22,5	6,5		x			Rectang.
MBG - 18/1	16,5	4,8				x	Rectang.
18/2	29	4		x			?
MBG - 19	47 (162)	5		x			Rectang.
MBG - 20	33	5,5		x			?
MBG - 22	15	7				x	Rectang.
MBG - 23/1	100?	6	x				Rectang.
MBG - 24	20-30	3	x				Rectang.
MBG - 25	125	3,5-1,5	x				Trapez?
MBG - 26/1	44	6-4			x		Trapez.
26/2	75	5-4			x		Trapez.
MBG - 27	8,5	6		x			Rectang.
MBG - 28	23	7-4				x	Trapez.
MBG - 29	18	5,2	x				Rectang.



Table 2d. Dimensions, orientation and shape of ELBs in Lower Saxony  
(dimensions in metres).

BARROW	LENGTH	WIDTH	ORIENTATION				SHAPE
			N-S	E-W	NE-SW	SE-NW	
LSAX - 1/1	37	4-3				x	Trapez.
1/2	40	4				x	Rectang.
LSAX - 2	27	3	x				Rectang.
LSAX - 3/1	30	5	x				Rectang.
3/2	32	5	x				Rectang.
LSAX - 4	14+	4,7	x				Rectang.
LSAX - 5/1	36	5			x		Rectang.
5/2	112	3,5-4			x		Rectang.
5/3	50	2,5				x	Rectang.
LSAX - 6/1	43	7				x	Rectang.
6/2	80					x	Rectang.
LSAX - 7	40	5			x		Rectang.
LSAX - 8/1	154	8,5				x	Rectang.
8/2	75	4		x			Rectang.
8/3	50	3,5			x		Rectang.
8/4	30	4		x			Rectang.
8/5	40	4,5				x	Rectang.
8/6	25	3	x				Rectang.
8/7	35	5	x				Rectang.
8/8	28	5	x				Rectang.
8/9	45,5	12-11,5		x			Rectang.
8/10	37	10,5-7				x	Trapez.
8/11	19	10-7,5		x			Trapez.
8/12	42	13,5-9				x	Trapez.
8/13	19	8			x		Rectang.
8/14	41	8	x				Rectang.
8/15	12	6				x	Rectang.
8/16	52	6	x				Rectang.
8/17	24,5	5				x	Rectang.
8/18	22	5			x		Rectang.
8/19	43	4				x	Rectang.
8/20	36	4				x	Rectang.
8/21	42	3			x		Rectang.
8/22	52	4			x		Rectang.
8/23	61	3	x				Rectang.
8/24	45	4,5	x				Rectang.
8/25	25	5	x				Rectang.
8/26	17	5		x			Rectang.
8/27	55	3,5	x				Rectang.
8/28	18	3,5	x				Rectang.
8/29	13	3	x				Rectang.
8/30	25	5	x				Rectang.
8/31	57	4,5	x				Rectang.
LSAX - 9	80	4-2				x	Trapez.

Table 2e. Dimensions, orientation and shape of ELBs in Denmark  
(dimensions in metres).

BARROW	LENGTH	WIDTH	ORIENTATION				SHAPE
			N-S	E-W	NE-SW	SE-NW	
DNK - 1	14			x			Rectang?
DNK - 2/1	85	10		x			Rectang.
DNK - 2/2	85	10		x			Rectang.
DNK - 3	?	?		x			?
DNK - 4	60	13-4		x			Trapez.
DNK - 5	17	?		x			?
DNK - 6	18,5	3-1		x			Trapez.
DNK - 7	?	?		x			?
DNK - 8	36+	6,5		x			Rectang.
DNK - 9	24	10		x			Rectang.
DNK - 10	90+	15				x	Rectang.
DNK - 11	45	11		x			Rectang.
DNK - 12/1	30+	9			x		Rectang.
DNK - 12/2	30+	9			x		Rectang.
DNK - 13	58	9		x			Rectang.
DNK - 14	25+	7		x			Rectang.
DNK - 15	20	4-2		x			Trapez.
DNK - 16	45	13	x				Rectang.
DNK - 17	70	10-5		x			Trapez.
DNK - 18/1	36	5		x			Rectang.
DNK - 18/2	33	3		x			Rectang.
DNK - 19	27	5-3,75		x			Trapez.
DNK - 20	14	4-2				x	Trapez.
DNK - 21	20+	6				x	Rectang.
DNK - 22	5			x			Rectang.
DNK - 23	10+	7		x			Rectang.

Table 2e) vary in length from 14 to 85m although the majority are below 60m in length.

A comparison of the length and width of barrows (Fig. 36a-e) suggests that although these two dimensions are not directly related to each other (see for example Chmielewski's estimates of the length based on the width of some barrows in Kujavia) general tendencies can be observed in each area of barrow distribution. The widest ranges of width come from Kujavian (6-12m, Fig. 36a) and Western Pomeranian (3-11m, Fig. 36b) examples. Although all widths are associated with barrows of the most common lengths (60-80m in Kujavia and 25-45m in Western Pomerania) there is a tendency, particularly noticeable in Western Pomerania, for shorter barrows to be narrower. Thus, for example, no barrow between 3 and 6m in width is longer than 45m. In Kujavia the range of widths is more freely spread out but the really wide barrows (11-12m) tend to be over 50m in length.

In Mecklenburg (Fig. 36c) the main width range falls between 3 and 7m - a very wide example of 18m is rather exceptional. With one exception (Stralendorf, MBG-25) barrows 3-4m wide are shorter than those 5-8m wide, but some very short and wide barrows are known as well. Irrespective of their length, the average width of barrows in Lower Saxony falls between 3 and 5m (72,7%). Only a few examples are wider, and the exceptionally wide barrows (12-13m) are thought to reflect subsequent destruction of the mound through shifting of soil rather than a width by design.

It is more difficult to assess the relationship between the length and width of barrows in Jutland (Fig. 36e); both long and short barrows are of variable width and the two dimensions do not seem to be closely related. It is interesting, however, to superimpose the relationship between the width and length of barrows in all areas. The graph (Fig. 37) shows clearly that there is a close correspondence between the areas of Mecklenburg and Lower Saxony, and a less clear but nevertheless apparent relationship between Kujavia and Denmark. Western Pomerania seems to retain a pattern of its own. The general tendency, however, is for barrows further west from Kujavia to become narrower.

Let us now examine the relationship between the size and the



Fig. 36 Comparison of the length and width of ELBs: a) KUJ, b) WPOM, c) MBG, d) LSAX, e) DNK

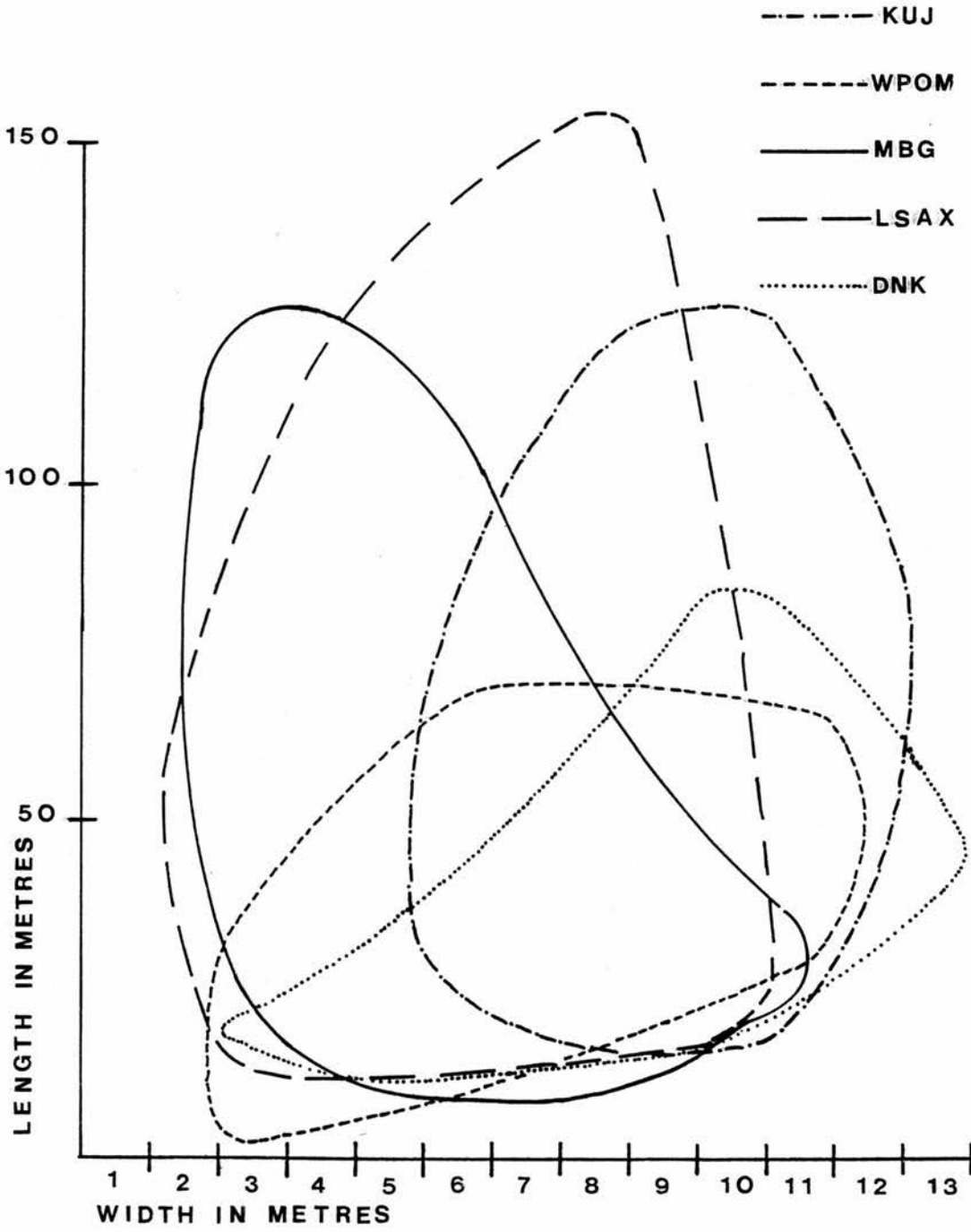


Fig. 37 Superimposition of the length/width relationship in different areas

shape of the mounds in each area. Rectangular and trapezoidal forms are presently known in all regions except Kujavia (but see Kozłowski 1921). A comparison of their respective lengths emphasises the differences between Denmark and Lower Saxony on the one hand, and Western Pomerania and Mecklenburg on the other (Fig. 38). From the Danish and Lower Saxon examples it appears that the length of the barrow is not related to its shape (Fig. 38.1c and d, 38.2c and d). Both forms are roughly comparable in length, with rectangular barrows from 14 to 90m (DNK) and from 12 to 80m (LSAX), and trapezoidal mounds from 14 to 70m (DNK) and from 19 to 80m (LSAX). The two very long barrows from Lower Saxony (LSAX-5/2 and LSAX-8/1) do not affect this pattern. The differences in shape seem to be reflected in the width of the barrows, with the rectangular forms generally wider in Denmark (Fig. 39.1d), while the reverse appears to be true in Lower Saxony (Fig. 39.2c).

By contrast, in Western Pomerania and Mecklenburg differences in shape are reflected in size (Fig. 38). The lengths recorded for rectangular forms in both areas do not exceed 31m (10 - 31m in Western Pomerania, Fig. 38.1a; 15 - 31m in Mecklenburg; Fig. 38.1b). Thus their range is considerably shorter than that of the trapezoidal barrows which vary between 13 and 65m in Western Pomerania (Fig. 38.2a) and between 13 and 50m in Mecklenburg (Fig. 38.2b). This correspondence in shape and length between two areas is however reversed when width is considered (Fig. 39). Thus in Mecklenburg the trapezoidal mounds are wider (5 - 18m, Fig. 39.2b) than the rectangular (3 - 6m, Fig. 39.1b), while the reverse seems to be true in Western Pomerania. Here trapezoidal mounds vary in width between 4 and 7m (Fig. 39.2a), while the rectangular reach 11m in width (3 - 11m, Fig. 39.1a; 'mini-megaliths' excluded).

In conclusion we may note that generally the barrows are shorter and narrower the further west we look within the distribution area. In each region however there are examples which, be it through their length or width or both, stand out sharply from the main body of the monuments.

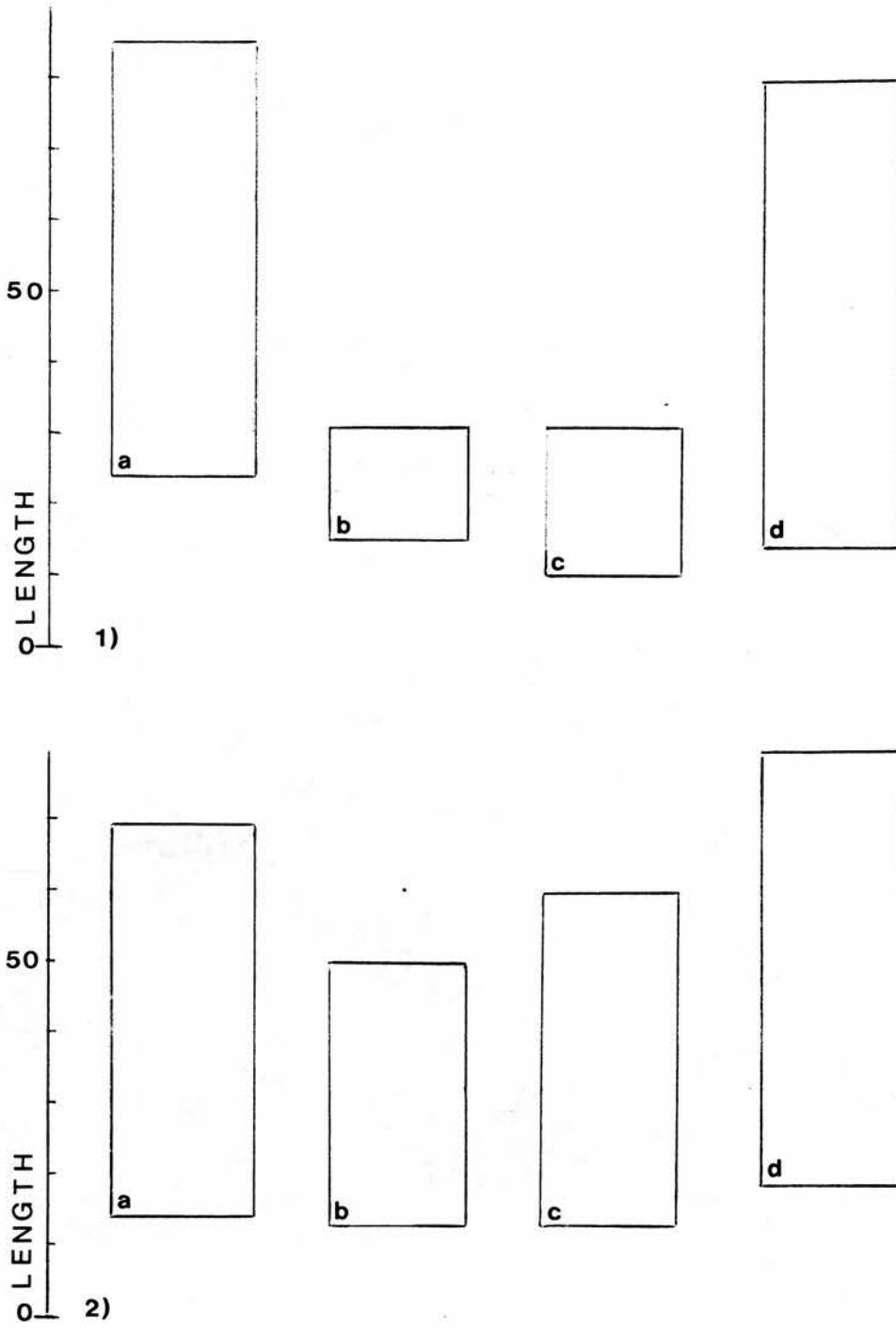


Fig. 38 Comparison of the length between rectangular (1) and trapezoidal (2) barrows: a)WPOM, b)MBG, c)LSAX, d)DNK



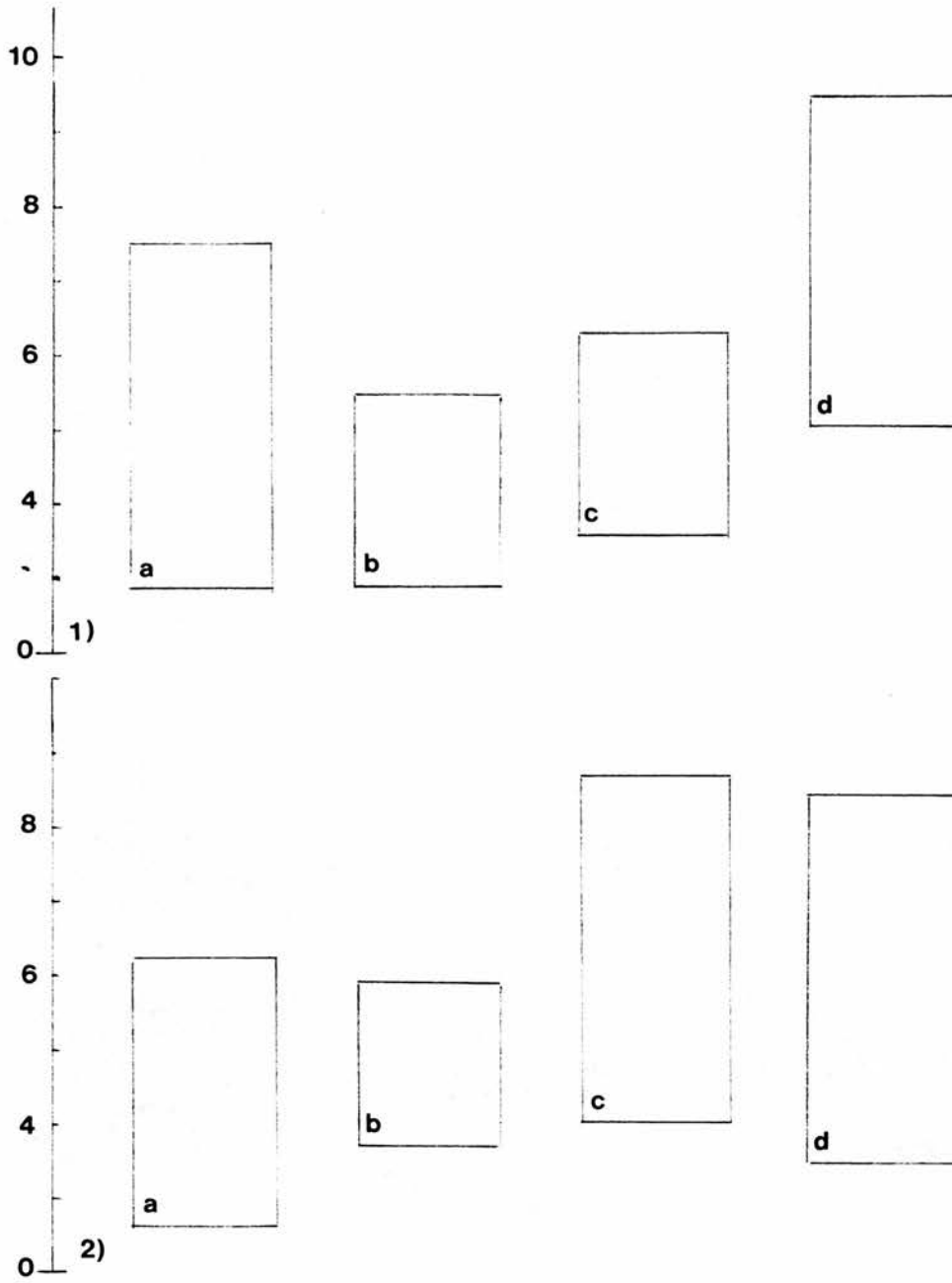


Fig. 39. Comparison of the width between rectangular (1) and trapezoidal barrows: a)WPOM, b)MBG, c)LSAX, d)DNK

#### 7.4 ORIENTATION OF THE NORTH EUROPEAN EARTHEN LONG BARROWS

In this section it is proposed first of all to discuss the general problems associated with interpreting the orientation of the earthen long barrows; then to consider the orientation trends apparent in the various regions; and, finally, to discuss in more detail a few groups of long barrows for which sufficient data exist to allow comments of a more specific nature.

In considering the orientation of the earthen long barrows two problems arise. Firstly, taking into account the monument as a whole, we need to ask which direction in a particular orientation is of greater importance; for example, in an E-W oriented long barrow is it the eastern, or western, or indeed both? In the case of the Kujavian or trapezoidal long barrows the shape of the mound is suggestive of a predominant direction and there is a general tendency to regard the wider end as its indicator (Chmielewski 1952, Jażdżewski 1970a). The fact that many activities (burning of fires, raising of structures, deposition of votive material, interments *etc.*,) generally occur in the wider part of the mound lends support to such an interpretation.

On the other hand, a phenomenon which can be observed in Kujavia and to a certain extent in Western Pomerania - that of a fan-like layout of a group of barrows (with the narrower ends closer together than wider ends) - could plausibly be interpreted as 'pointing to somewhere', in this case in the direction of the narrower ends. Hitherto there has been a tendency to regard one direction of a given orientation as more important than the other. Yet we should consider the possibility that it is the *complete* orientation, *e.g.*, E-W or N-S (the line of the main axis) that is of importance. This problem could for example be considered in the context of rectangular barrows, in which the shape of the mound does not suggest a priority of one direction over the other.

The second problem is that of distinguishing between the orientation of the barrow and that of the interment and/or interior structures. We shall devote more space to this problem in the section on burial (chapter 9.3); here it is sufficient to note that the majority of burials are laid out in such a way that either 1) the head of the deceased points towards the narrower end, or 2) the grave is placed

along or parallel to the main axis of the barrow. We should further consider the possibility that the burial and the barrow may represent separate chronological and/or functional aspects and that their respective orientations may be related to different factors.

Information concerning the orientation of the earthen long barrows is available for a sufficient number of sites in all regions (Table 2a-e, Figs. 40-42) to enable us to recognise the emerging patterns as representative of each area. Unfortunately, more often than not it is only possible to identify the four main orientations: N-S, E-W, NE-SW and SE-NW. Thus, with one exception only, orientation for different regions is presented according to this division (Tables 2b-e). For the area of Kujavia it has been possible to present a more detailed analysis (Table 2a, Fig. 40). All data here combine to indicate an exact range of orientation in the direction of the wider end. However this different presentation does not in any way distort the general pattern for the purpose of comparison with other areas.

General distribution figures for each area (Figs. 40-42) show clearly that, with the exception of Lower Saxony (Fig. 42b), the principal orientation is east-west. Such a pattern is borne out particularly by the data from the two geographically most separated regions - Kujavia and Denmark (Figs. 40 and 42c). The earthen long barrows in Kujavia show a very consistent orientation; 70% of the barrows are oriented within a narrow arc of  $45^\circ$  (between ENE-WSW and ESE-WNW). The direction of the broader end in all but one of these barrows is to the east; only a few monuments deviate from this pattern.

In Denmark, although fewer sites are known, the situation is similar with 69% of barrows oriented from east to west (Fig. 42c). Western Pomerania shows the most diversified picture. Although barrows oriented from east to west account for 41% of the total, many barrows are oriented NE-SW (23%) and SE-NW (22%); slightly fewer are oriented from north to south (Fig. 41). Groupings in Mecklenburg fall in between the above - with the majority of barrows E-W (Fig. 42a) - but other orientations are more common than in either Kujavia or Denmark. Among the barrows of Lower Saxony the predominant orientations are N-S (38,6%) and SE-NW (31,8%), with E-W orientation being least common (11,4%, Fig. 42b).

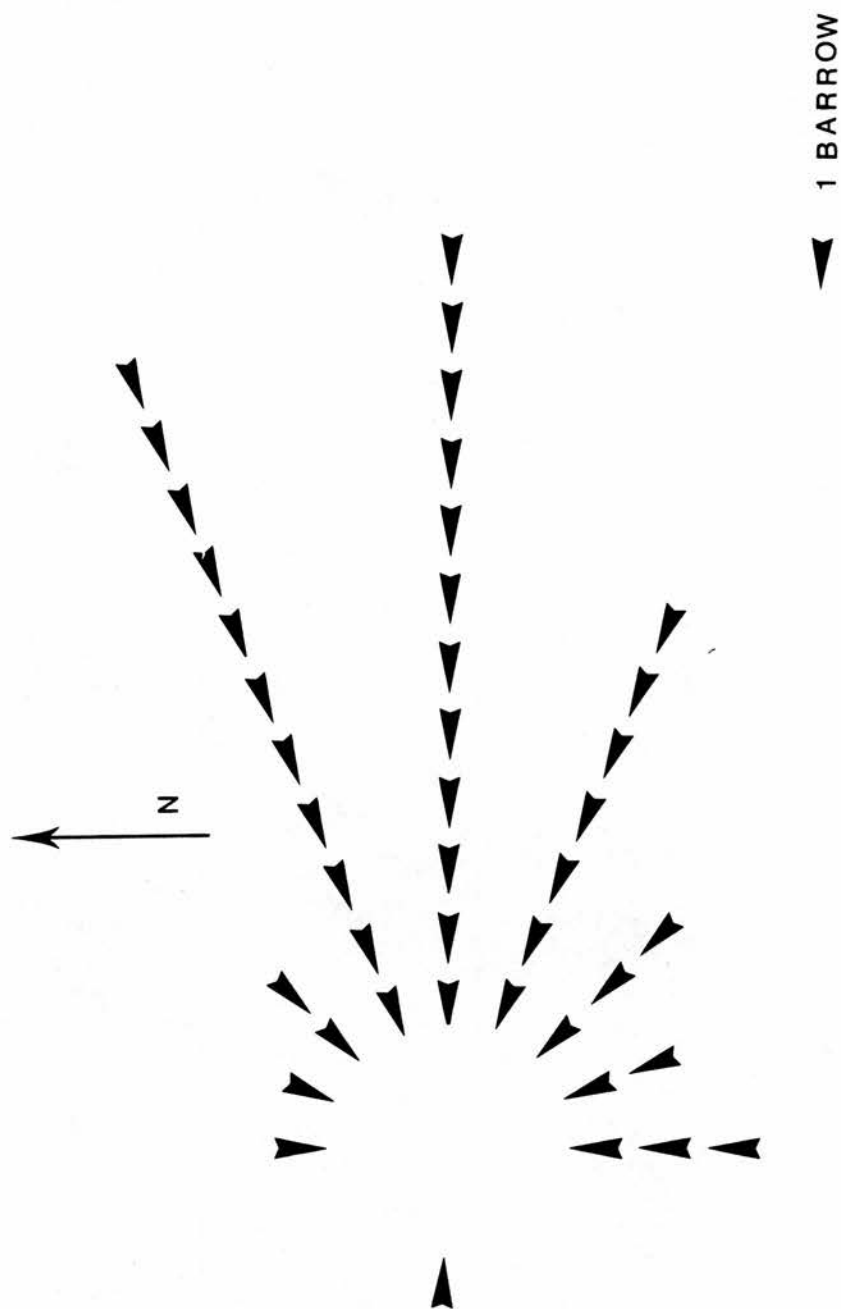


Fig. 40 Orientation of ELBs in Kujavia (indicating the position of the wider end)

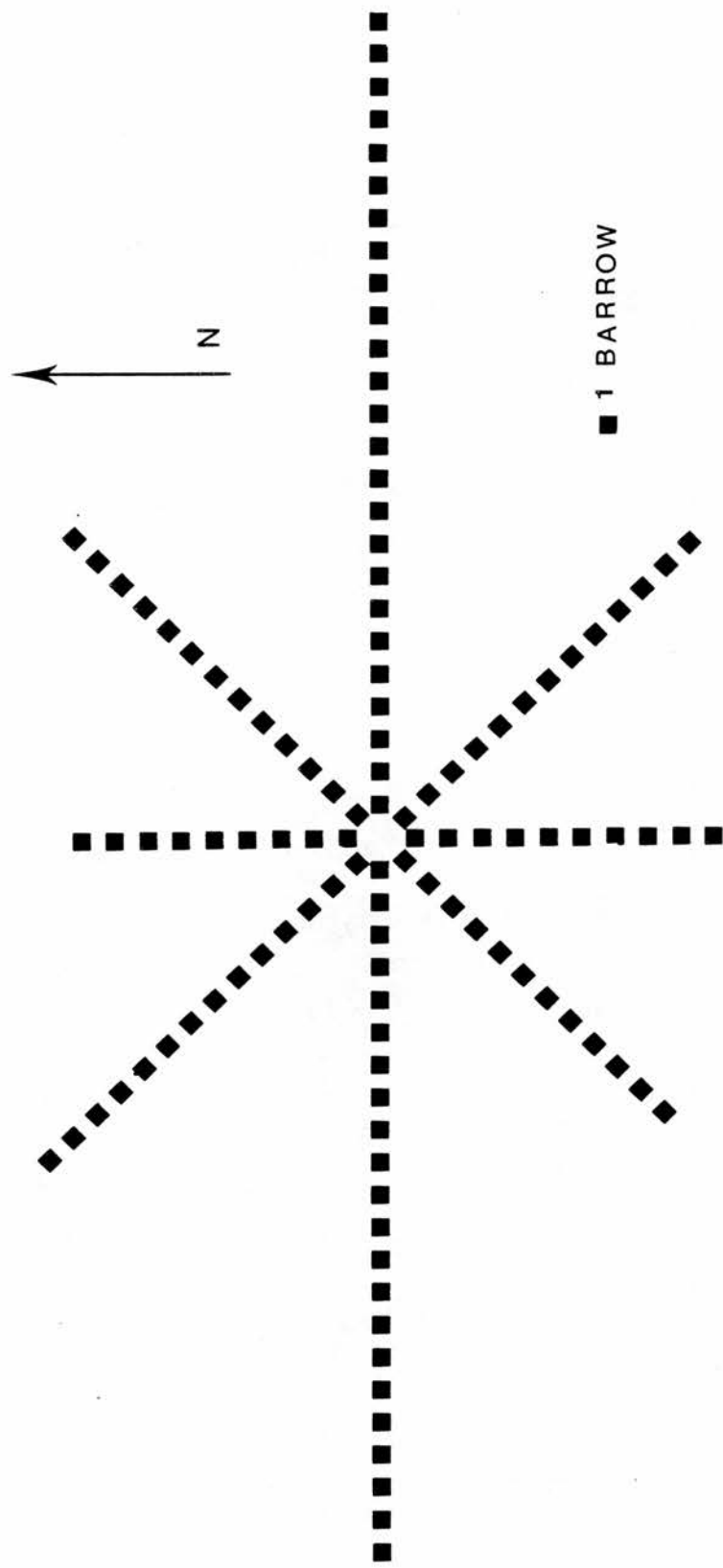


Fig. 41 Orientation of ELBs in Western Pomerania

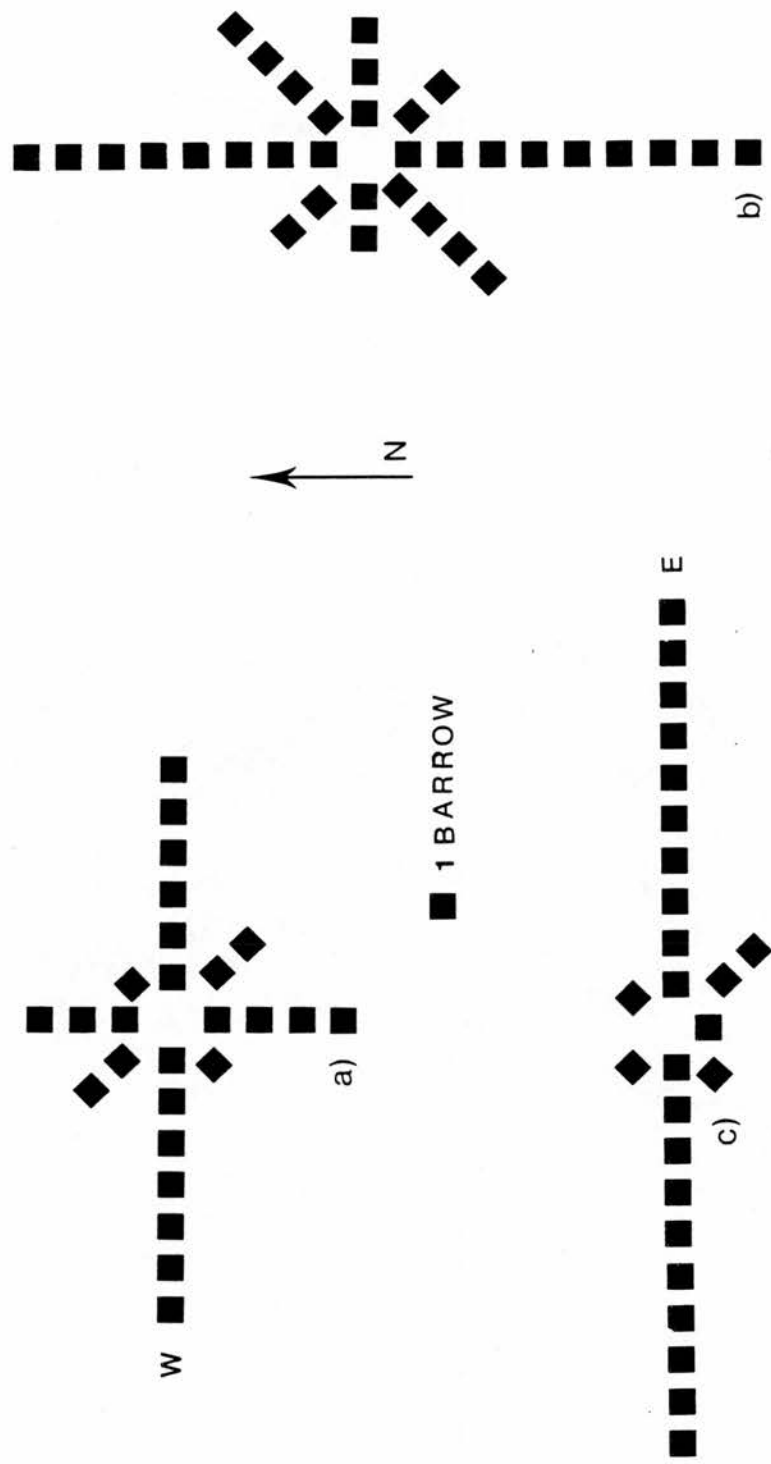


Fig. 42 Orientation of ELBs in a) MBG, b) LSAX, c) DNK

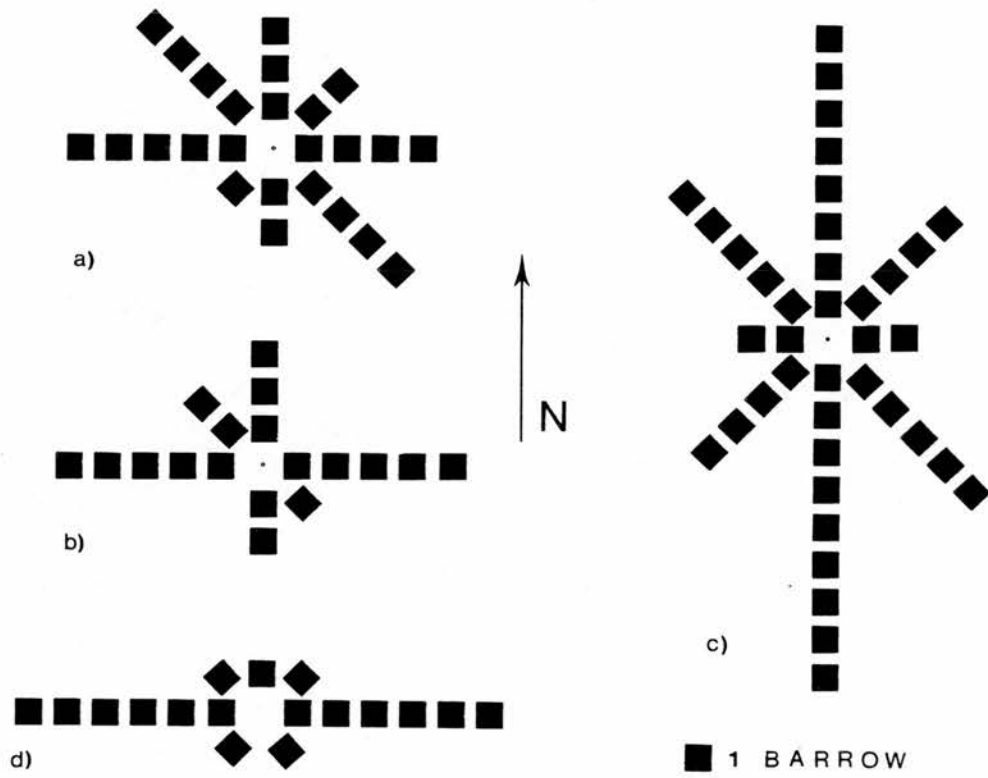


Fig. 43 Orientation of rectangular ELBs: a)WPOM, b)MBG, c)LSAX, d)DNK

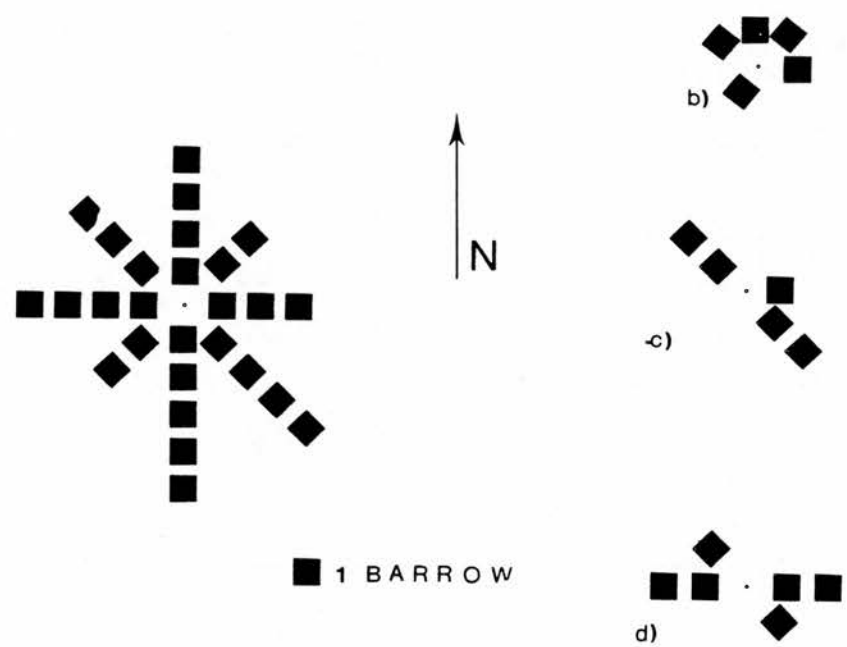


Fig. 44 Orientation of trapezoidal ELBs: a)WPOM, b)MGB, c)LSAX, d)DNK



The general orientation trend for each area is further emphasised when we compare the orientation of barrows in relation to different shapes (figs. 43 and 44). In the case of both rectangular and trapezoidal mounds, the general tendency of east to west orientation is very clear in Denmark (Figs. 43d and 44d) and Mecklenburg (Figs. 43b and 44b), as is the SE-NW orientation in Lower Saxony (Figs. 43c and 44c). In Western Pomerania on the other hand the divergence of orientation is even more conspicuous when these divisions are taken into account (Figs. 43a and 44a). A comparison of the orientation of the Kujavian long barrows can be drawn only with Western Pomerania. As already indicated, orientation in Kujavia is very consistent. Although in Western Pomerania many triangular barrows are oriented from east to west, this orientation is not exclusive and a divergence is evident for this form of monument as well.

For a detailed analysis of orientation let us consider a few sites in Kujavia. Here, sufficient data are available at four sites, each with more than three barrows (Table 3, Fig. 45), and a certain regularity in the arrangements can be seen. Each site has its own main orientation: Leśniczówka (KUJ-17) - ENE-WSW; Obałki (KUJ-22) - ESE-WNW; Sarnowo (KUJ-32) - ENE-WSW; and Wietrzychowice (KUJ-45) - SE-NW. The range of orientation at Leśniczówka, Obałki and Sarnowo fits very well with the predominant range for the area (Fig. 45a-c). The Wietrzychowice 'cemetery' as a group deviates slightly from the main Kujavian orientation (Fig. 45d), but on the other hand the orientation of individual barrows is more consistent here than on any other site (all within the range of  $21^\circ$ ). At the same time, at each site there is at least one barrow which distinctly deviates from the rest (KUJ-17/4, -22/4, -32/7 and -45/6 and 7).

A comparison of the orientation of barrows and their spatial layout within each site is also informative. At each site there is one group (Figs. 46 and 47) which seems to form a small, individual unit; at Sarnowo there are two such groups. Their orientation range is smaller than that of the whole site - at Leśniczówka  $30^\circ$ , Sarnowo  $7^\circ$  and  $18^\circ$  ( $23^\circ$  for the whole site, excluding no. 7), Obałki  $31^\circ$ . At Wietrzychowice the layout is more difficult to interpret since two

Table 3. Orientation of individual barrows at four Kujavian cemeteries

<u>LEŚNICZÓWKA KUJ-17</u> 17/1 - 60° E of N 17/2 - 60° E of N 17/3 - 70° E of N 17/4 - 40° E of N	Range of orientation 25° (ENE-WSW)
<u>OBAŁKI KUJ-22</u> 22/1 - 5° S of E 22/2 - 23° S of E 22/3 - 36° S of E	Range of orientation 31° (ESE-WNW)
<u>SARNOWO KUJ-32</u> 32/1 - 60° E of N 32/2 - 63° E of N 32/3 - 56° E of N 32/4 - 57° E of N 32/5 - 63° E of N 32/6 - 75° E of N 32/7 - 11° E of N 32/8 - 52° E of N 23/9 - 52° E of N	Range of orientation 64° (ENE-WSW) or 23° excluding 32/7
<u>WIETRZYCHOWICE KUJ-45</u> 45/1 - 52° S of E 45/2 - 56° S of E 45/3 - 45° S of E 45/4 - 56° S of E 45/5 - 35° S of E	Range of orientation 21° (SE-NW)

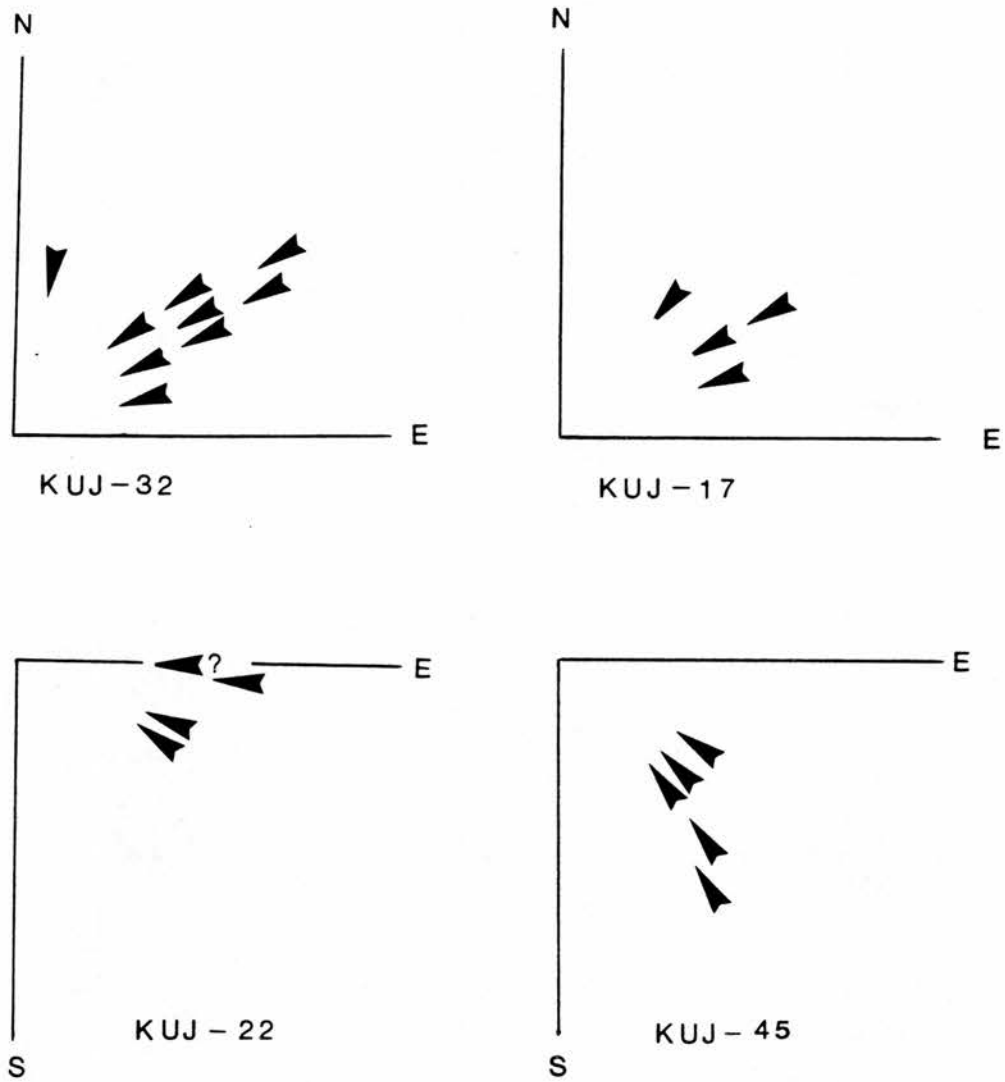


Fig. 45 Orientation of individual barrows at four Kujavian cemeteries



barrows (KUJ-45/6 and 7) cannot be directly related to the main group. If these are excluded and barrows KUJ-45/3, 4 and 5 considered as more related to each other than the rest, their orientation range is equal to that of the whole site, *i.e.*, 21°.

How do we interpret such orientation patterns? A comparison with contemporary *TRB* settlements is not possible (section 7.2) and we must rely therefore upon information contained within the sites themselves. That the groups of barrows within 'cemeteries' form meaningful entities is supported not only by their related orientation but also by their discrete positioning and, in the case of Sarnowo, also by their similarity of design (section 7.5). The possible origins of such a group arrangement will be discussed later (chapter 10). Whether the groups represent chronological, social or other differences cannot be ascertained, as we do not have sufficiently detailed evidence. Some chronological distinction is possible, however, between the four 'cemeteries', although it is very tentative since the diagnostic material remains are scarce (chapter 9.5). Nevertheless, on the basis of the finds one could cautiously suggest a relative chronological sequence of Sarnowo, Leśniczówka, Obalki and Wietrzychowice (without specifying the temporal differences or overlaps among them).

On this basis we could then ask whether the different orientation of each site is not related, in some way at least, to its chronological position, and suggest the possibility, over a period of time, of an 'orientation swing' - in this case from NE-SW towards SE-NW. The writer is only too aware of the conjectural nature of this suggestion, especially in view of the insufficient data for the substantiation of such an argument. On the other hand it is felt that, should more detailed evidence be available in future, such an approach could be applied to sites with many barrows of differing orientation and long period of use.

Since there seems to be such a regular predominance of an east-west orientation throughout the earthen long barrow province, it is plausible to assume that this particular orientation was inherent in the requirements of the barrow building tradition. These may have been associated with a concept of the natural world, symbolic meanings (need for differentiation - chapter 10) or practical aspects of

construction, but we are not in a position to determine the extent to which these played a crucial role in the choice of a specific orientation.

It is particularly interesting to note that the least deviant patterns in the earthen long barrow orientation are associated with chronologically the earliest and latest concentrations, in Kujavia and Denmark (chapter 5). In both areas the phenomenon of earthen long barrows was shorter in duration than that of the *TRB* culture itself, and it may be that in these areas, for whatever reason, stricter rules of layout applied. On the other hand in areas such as Western Pomerania, Mecklenburg and Lower Saxony, multiple influences from many directions could have been contributory factors in orientation variability. In Western Pomerania sites are known which may originally have had up to a hundred long barrows (WPOM-37). These no longer remain today but 19th-century sketches (Fig. 25) suggest that orientation may also have been influenced by a need to use space economically. Indeed, evidence from the recently excavated 'cemeteries' at Łupawa (WPOM-25) suggests that the arrangements of barrows was associated with economy of land and labour (Jankowska 1980).

#### 7.5 FORM OF THE NORTH EUROPEAN EARTHEN LONG BARROWS

With regard to their external appearance three basic forms may be distinguished among the North European earthen long barrows: trapezoidal, rectangular and triangular. The two former types have a wide distribution and are commonly found from the Jutland Peninsula to Western Pomerania (Madsen 1979; Schuldt 1972; Siuchniński 1969, 1972; Sprockhoff 1952, 1954, 1966, 1967, 1975). The latter, save for isolated examples (*e.g.* MBG-25), appear in Kujavia and Western Pomerania (Chmielewski 1952; Jażdżewski 1970a; Siuchniński 1969, 1972). The classic triangular form (see below) is furthermore restricted to Kujavia. All three types are of composite construction, built of stone, earth and occasionally timber. The outward shape is in each case determined by an enclosure of stone (more rarely timber) within which, after a certain interval of time, a mound of earth (or stone and earth) has been set up. The rectangular and trapezoidal long barrows represent in each case a relatively straightforward design, and such differences as exist between them will

become apparent in sections concerned with details of construction and content (chapter 8).

The classic triangular long barrows - in literature frequently referred to as Kujavian - represent the most eccentric form in the North European long barrow tradition and, owing to their complexity of design, merit special consideration. In a general comment regarding their shape Chmielewski notes that, although variety of form is an obvious feature, common elements include a triangular stone kerb and a mound diminishing in height from the broad to the narrow end (1952, 15). A more detailed description of the classic form is offered by Jażdżewski. According to him the barrows are:

"... in plan closely reminiscent of an elongated isosceles triangle, with sides slightly concave; with the 'base part' wider and higher and with the 'tail end' gradually becoming narrower and lower; towards the end having parallel sides and bluntly finished"

(Jażdżewski 1970a, 15-16).

Evidence for the detailed study of this classic form is afforded by only a few excavated sites. These include Sarnowo (KUJ-32; Chmielewski 1952; Gabałówna 1968b, 1969a, 1969b; Wiklak 1975a, 1982), Leśniczówka (KUJ-17; Chmielewski 1952, Jażdżewski 1936a), Gaj (KUJ-7) and Obałki (KUJ-22; Chmielewski 1952), Wietrzychowice (KUJ-45; Jadczykowa 1970, 1971; Jażdżewski 1936b) and Zberzyn (KUJ-47; Gorczyca 1981). Older excavations, for example those of L. Kozłowski (1921), do not unfortunately provide enough detail for comparison with better excavated examples.

Although the general impression of the plan of the long barrows, as noted by most researchers, is that of a triangle, these barrows can also be described as composed of two separate elements, so perfectly matched that their overall appearance is that of a unified whole. These two components are: 1) a trapezoid and 2) either a very long and narrow rectangle or a gradually diminishing, elongated trapezoid (Figs. 48-54). Thus the wider part of the barrow, which in most cases was also the shorter, was laid out on the plan of a trapezoid. It varied in length from 15 to 40/45m, although most commonly it fell between 23 and 37m (Table 4). The width was equally variable from 6 to 12m at the wider end and from 3 to 5m at the narrower end of this section. The second



Table 4. Relationship between the length of wide and narrow components of Kujavian long barrows

BARROW	OVERALL LENGTH	WIDE PART	NARROW PART	RATIO OF WIDE/NARROW
KUJ-7/1	125m	27m	98m	1:3,6
KUJ-17/1	71,5m	25m	46,5m	1:1,9
17/2	70m	37m	33m	1:0,9
17/3	70m	25m	45m	1:1,8
KUJ-22/1	63m	27m	36m	1:1,3
22/2	65m	40m	25m	1:1,6
KUJ-32/1	77m	23m	54m	1:2,3
32/2	83m	29m	54m	1:1,9
32/3	38,5m	13m	22,5m	1:1,7
32/4	80m	35m	45m	1:1,3
32/5	76m	30m	46m	1:1,5
32/6	60m	36m	29m	1:0,8
32/8	71m	25m	46m	1:1,8
32/9	30m	15m	15m	1:1
KUJ-45/1	76m	25m	51m	1:2
45/2	93m			
45/3	115m	46m	69m	1:1,5
KUJ-47	57m	17m	30m	1:1,8

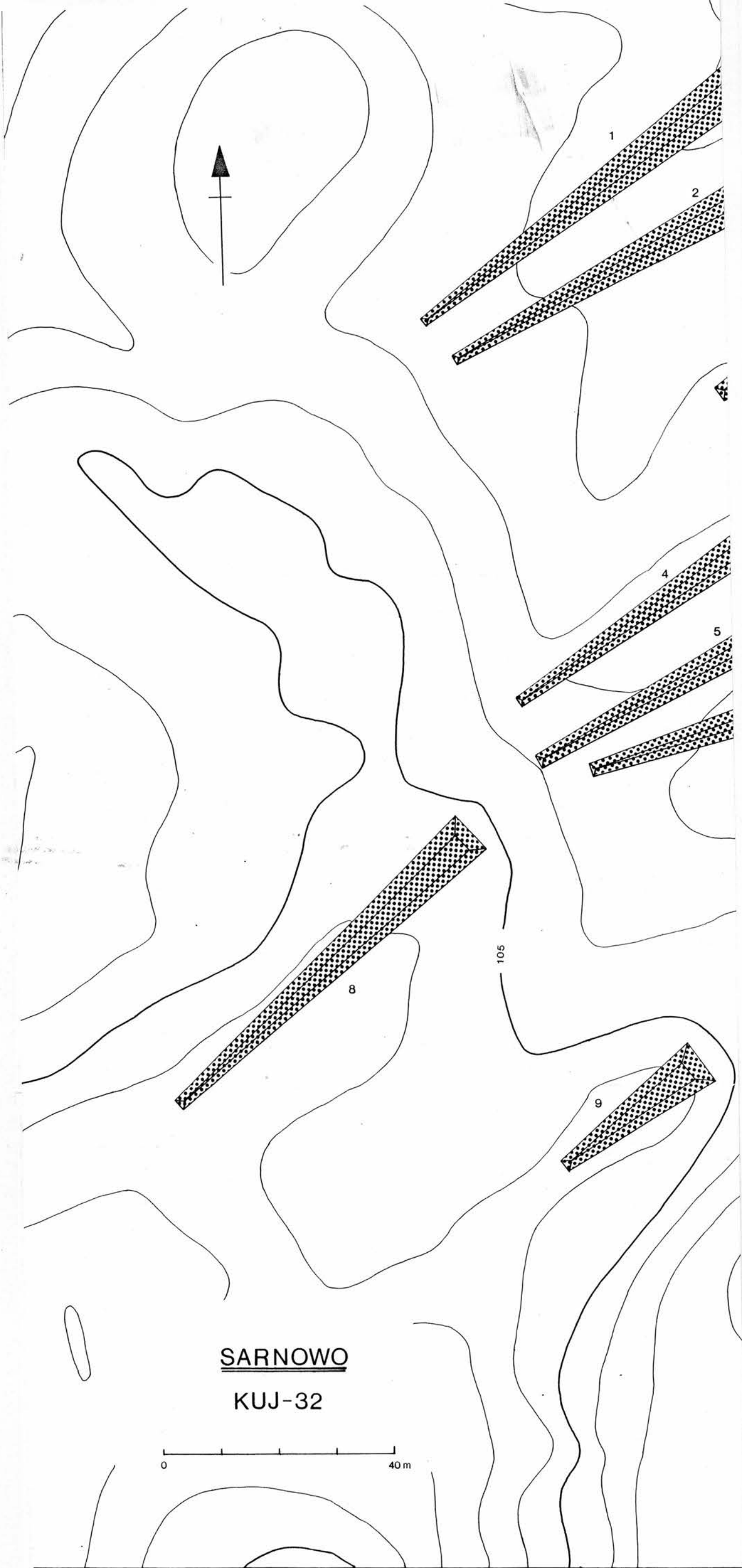
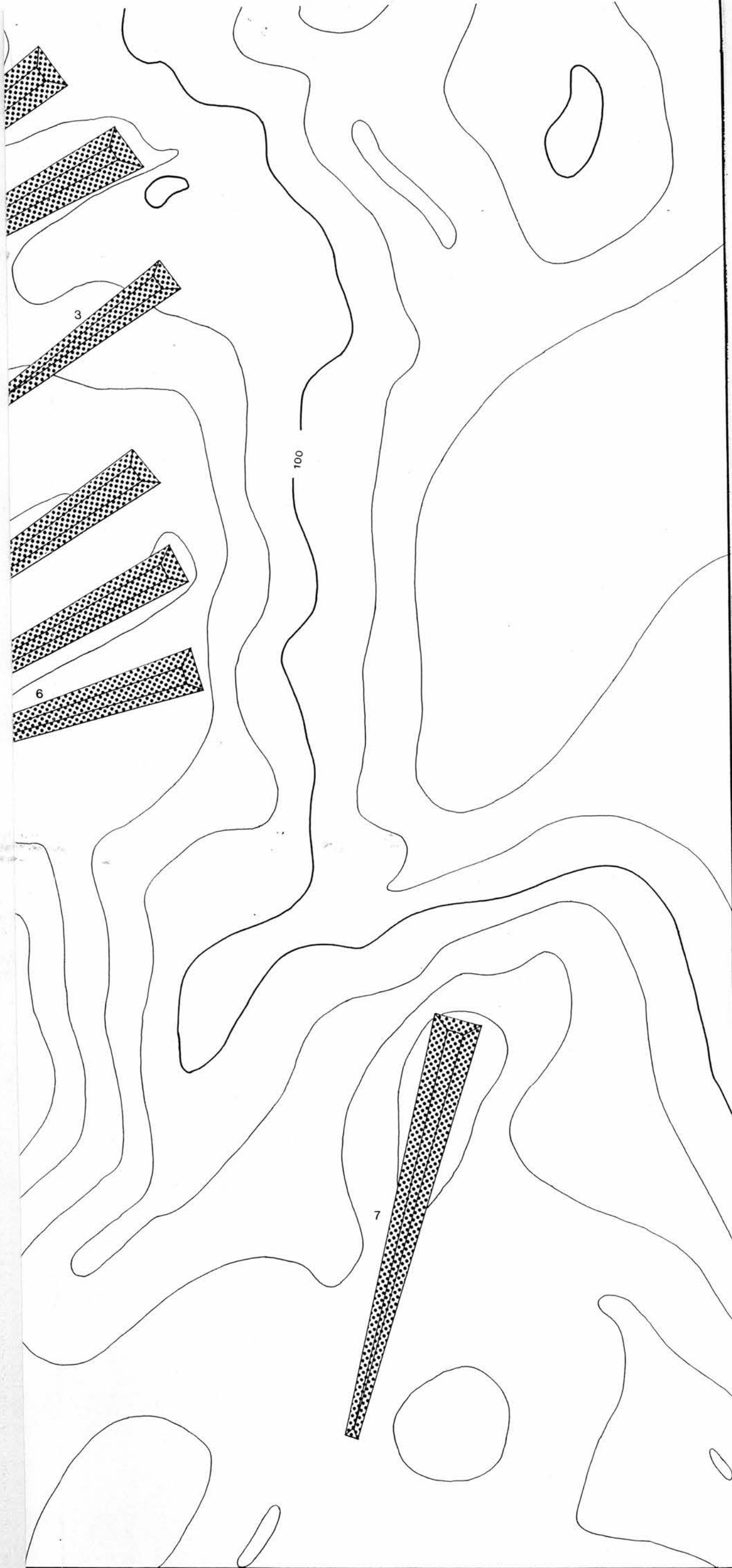


Fig. 47 Plan of the Sarnowo (KUJ-32) cemetery



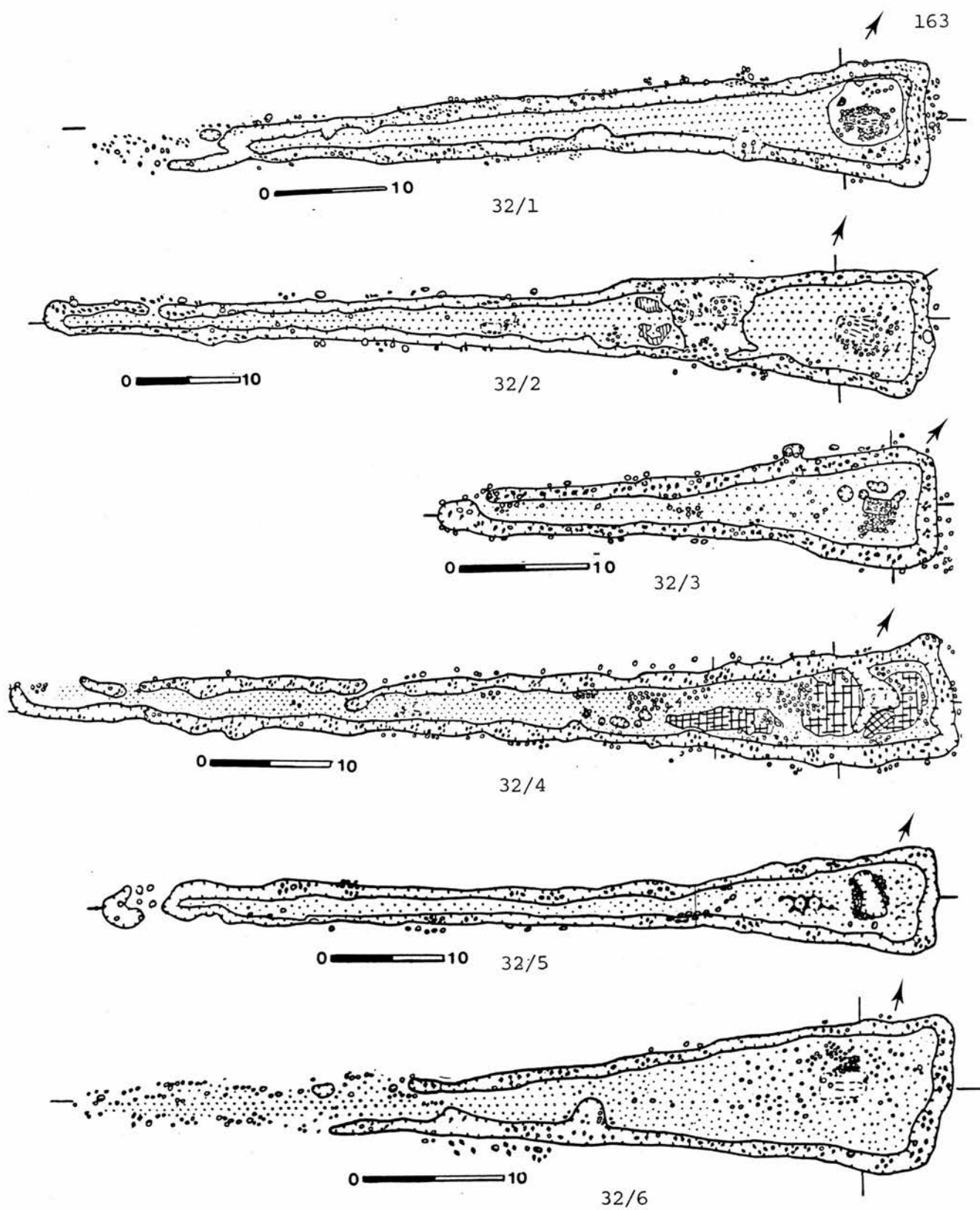
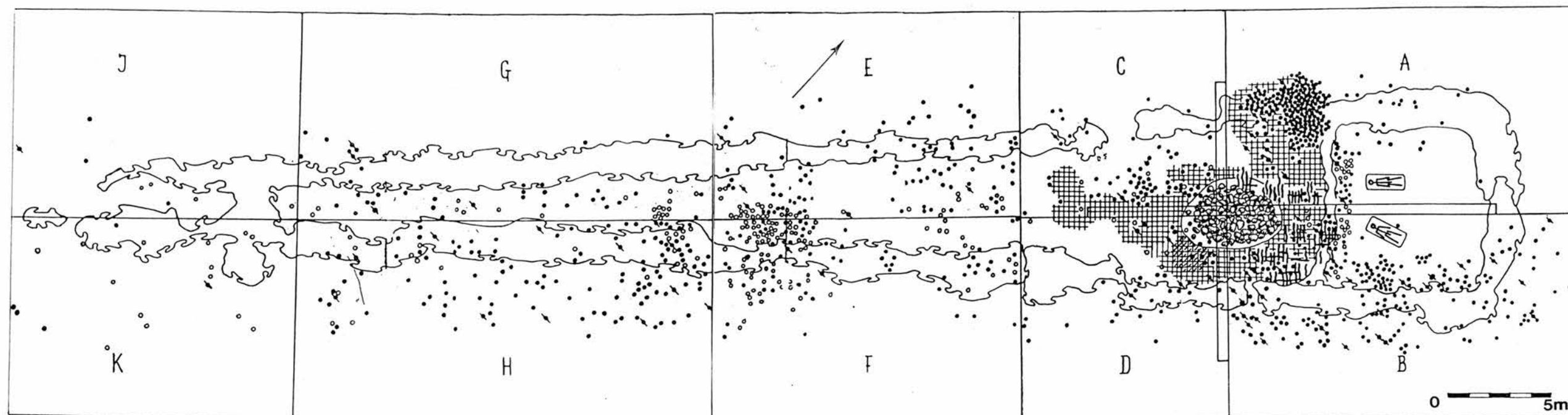
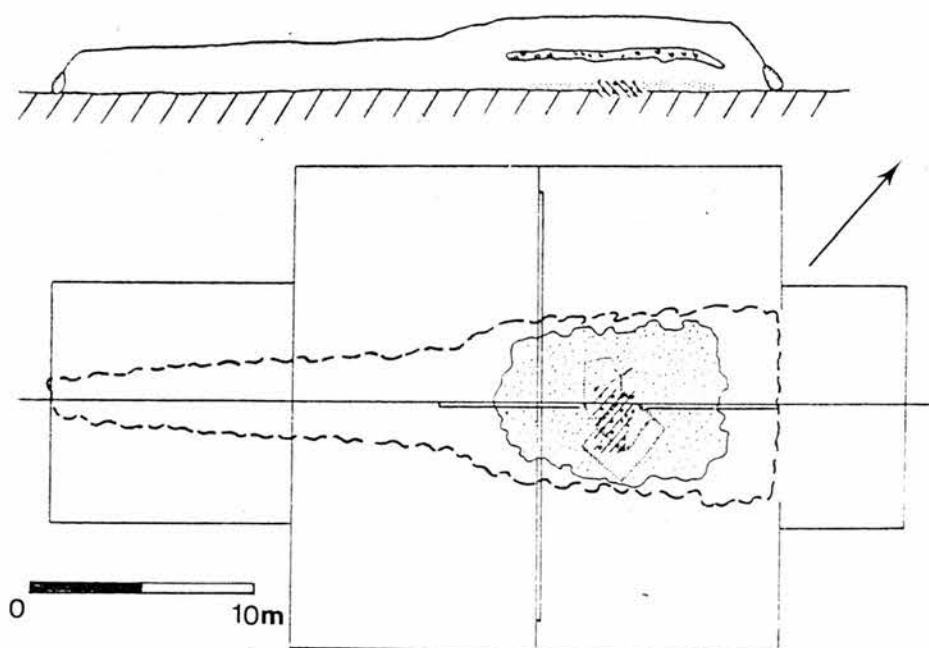


Fig. 48 Sarnowo (KUJ-32) barrows, general plan (after Chmielewski 1952)



a) pottery cultural layer graves



c)



b)

Fig. 49 Sarnowo, a) barrow 32/8, b) plough marks (under 32/8), c) barrow 32/9

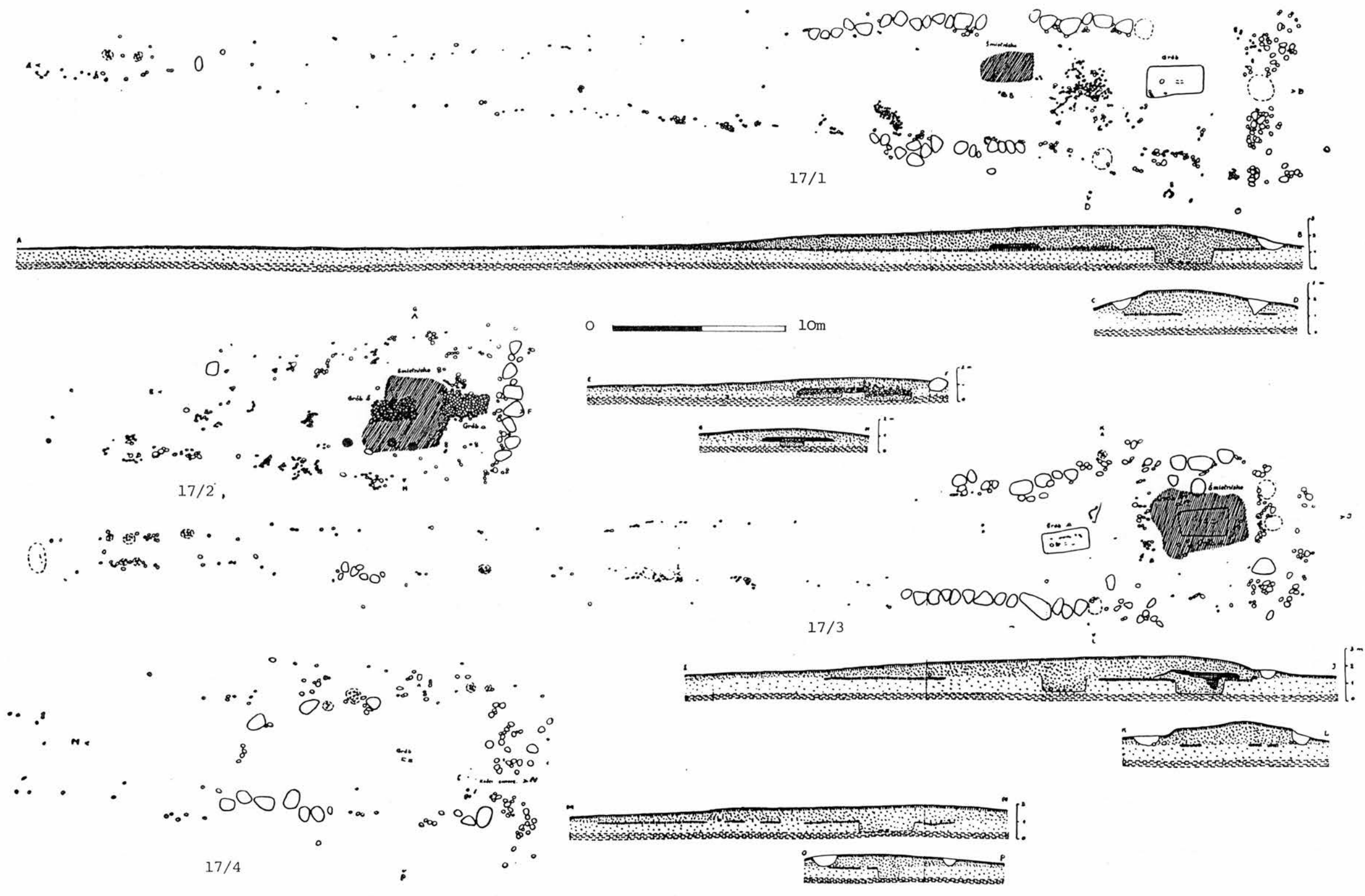


Fig. 50 Plan of Leśniczówka (KUJ-17) barrows (after Jażdżewski 1936a)



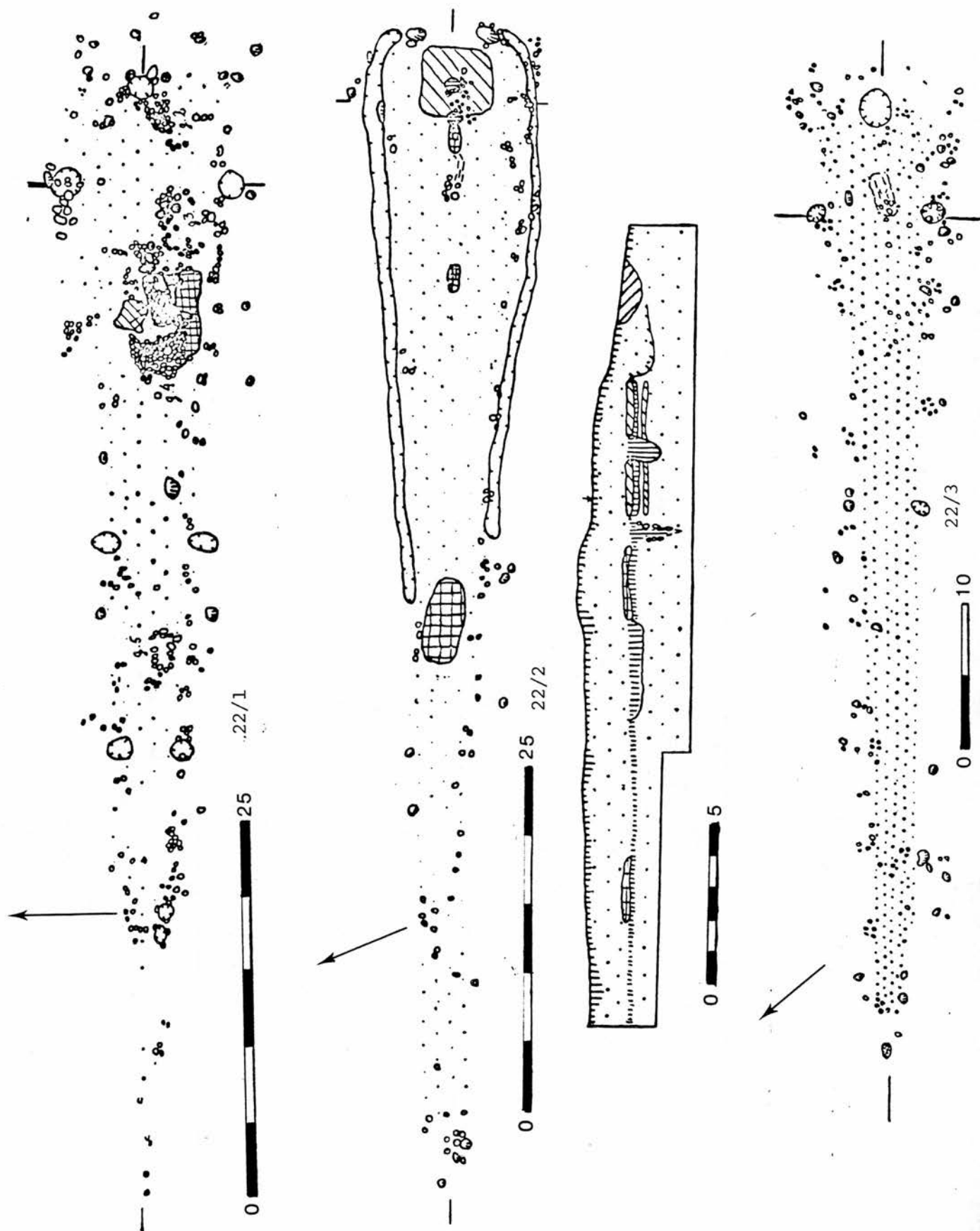


Fig. 51 Plan of Obałki barrows (KUJ-22, after Chmielewski 1952)



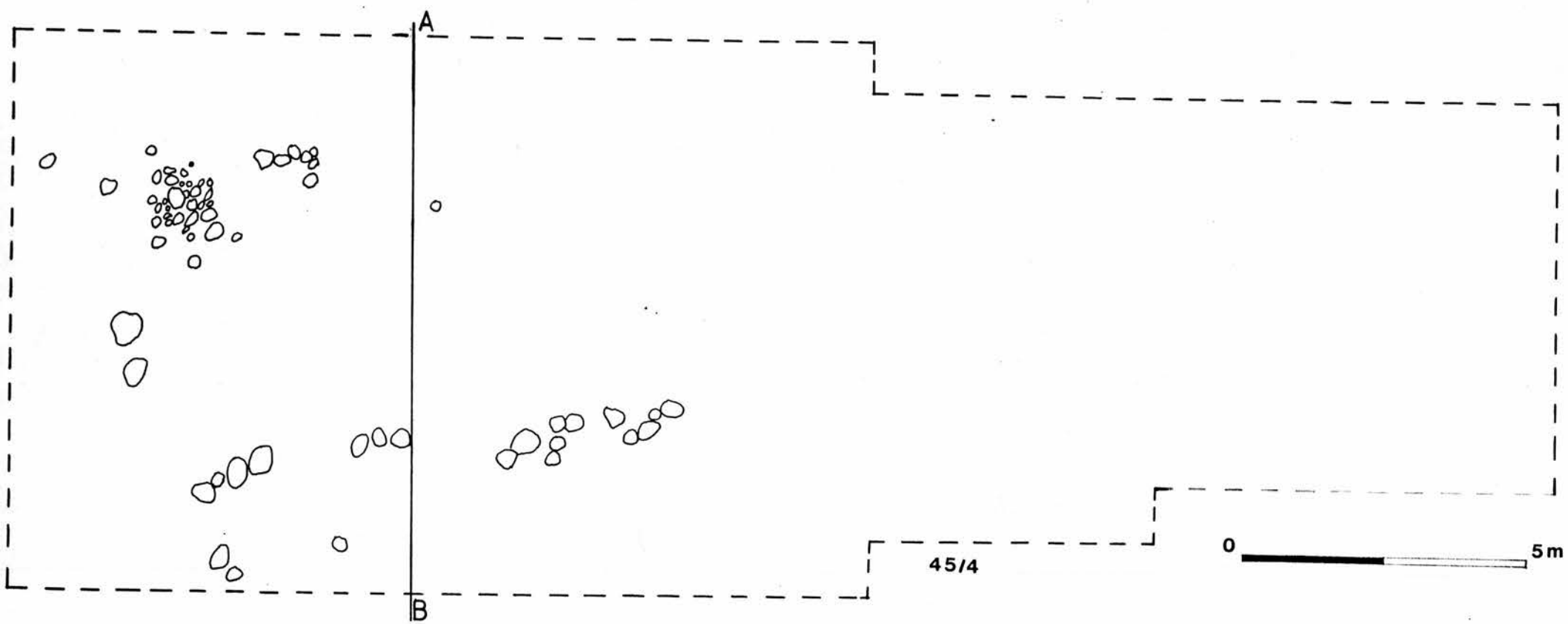
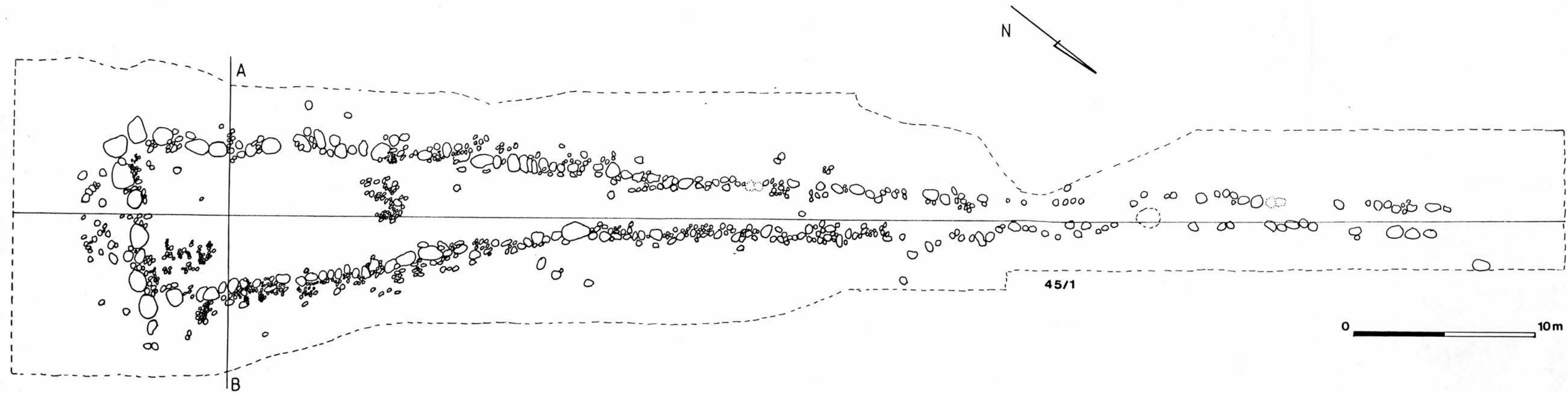


Fig. 52 Wietrzychowice (KUJ-45), barrow 45/1 and 45/4

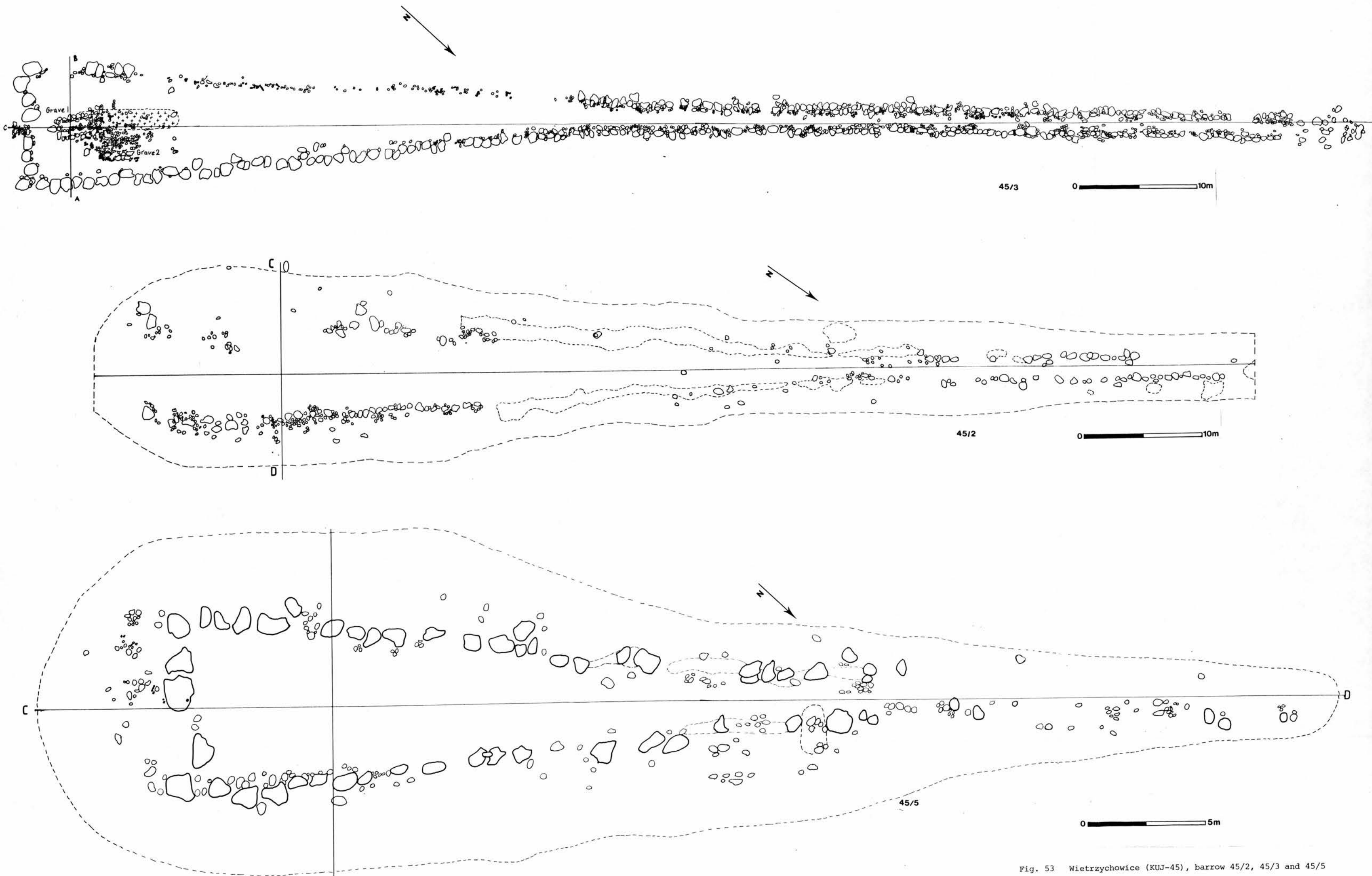


Fig. 53 Wietrzychowice (KUJ-45), barrow 45/2, 45/3 and 45/5

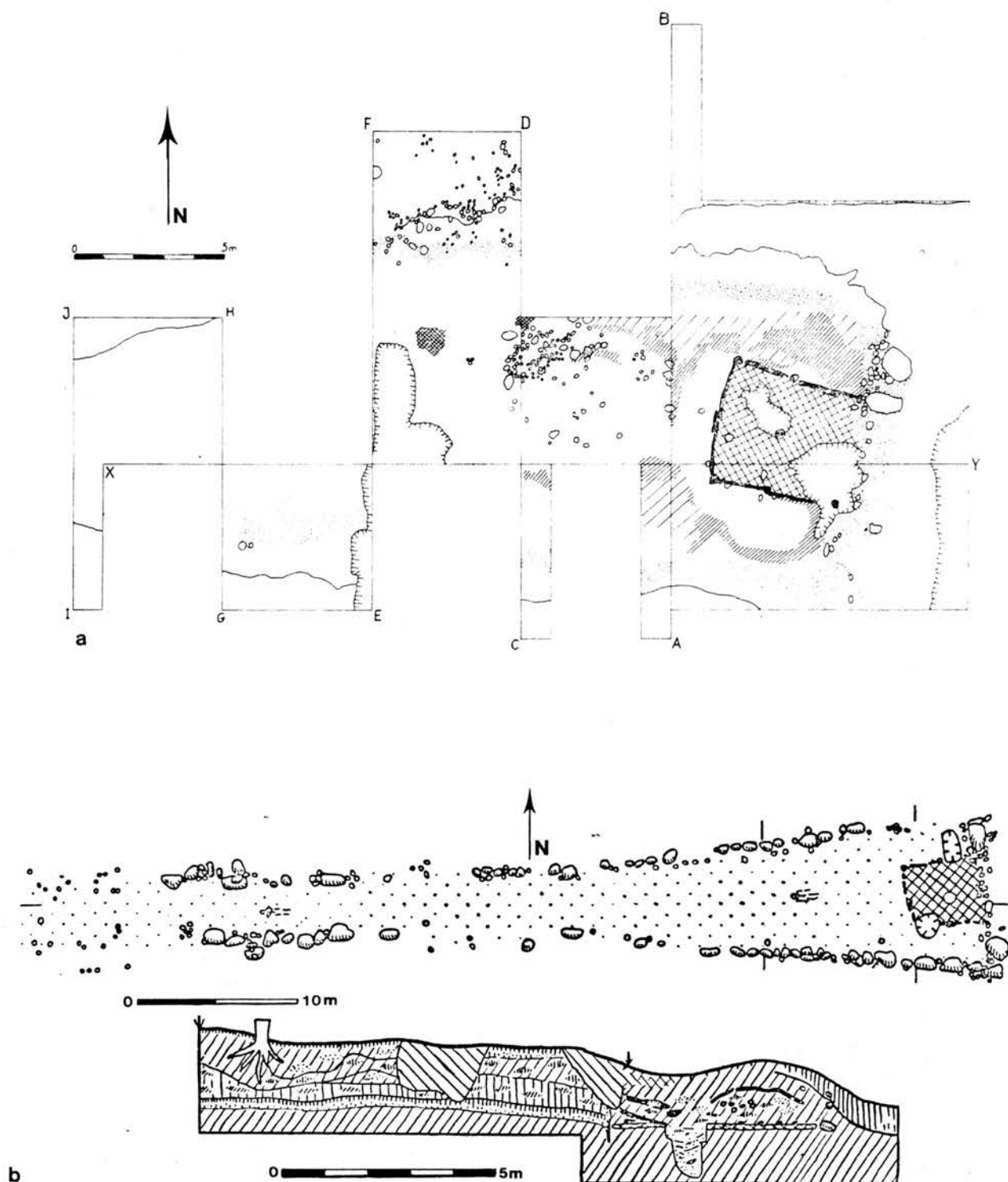


Fig. 54 General plan of Zberzyn (KUJ-47, a) and Gaj (KUJ-7/1, b; after Gorczyca 1981 and Chmielewski 1952)

design element, either a long and narrow rectangle (for example at Wietrzychowice, KUJ-45/3; Fig. 53) or an extremely gradually diminishing trapezoid (Sarnowo, KUJ-32/1, 2, 3; Fig. 48), is usually very narrow, generally between 3 and 1m for most of its length. There seems to be no particular relationship between the proportions of these segments, although in most cases (12 out of 17) the narrower part is at least one and a half times as long as the wider part (Table 4). The fluidity of this design springs from combining the two segments by means of a marked but gentle curve - or a change of angle - in one or two of the long sides of the barrow giving the appearance of a delicate transformation.

Two comments are necessary at this stage. Firstly, it must be stressed that this division seems to be visual rather than constructional. There is not a single long barrow in Kujavia where such a distinction can presently be confirmed in the construction either of the kerb or of the mound. It is perfectly possible that traces of such a division did not survive, were removed at some later stage of construction or were unobserved during excavation. On the other hand a division of this kind need not manifest itself structurally but may be clear in the actual layout of the enclosure, and indeed the functional differentiation of the interior (chapter 8) would justify the distinction of these two segments. We shall return to this problem later on in the discussion (chapter 10), but meanwhile we must concern ourselves with another aspect of the design - that of the layout (and subsequently construction) of the barrows, which is not as regular as the above description would suggest.

In the case of monuments for which relatively detailed plans exist, it is possible to observe that nearly all were set up slightly off the main axis and that at least three variations of the basic design can be seen. Particularly informative in this matter is the 'cemetery' at Sarnowo (KUJ-32, Figs. 47-49). Within this concentration there are two distinct groups, each with its own idiosyncracies of design. A particularly prominent change of angle in only one of the long walls (south-eastern wall) is a characteristic feature of the northernmost group (KUJ-32/1, 2 and 3; Fig. 48). The second group of barrows

(KUJ-32/4, 5 and 6; FIG. 48) differs from the first in the fact that in each barrow both of the long walls reveal a pronounced change in their direction. In the case of the remaining barrows (KUJ-32/8 and 9; Fig. 49) these seem to be related in their design to the second group - with both walls converging; the exaggeration in the plan of barrow 9 is however so strong that it seems more likely to be an interpretative error than a reflection of its true shape. Barrow 32/7, for which information is presently available only from an interim report (Gabałówna 1969a), was apparently the only one built on the plan of a regular triangle and did not show the change in wall angle characteristic of the other monuments on this site.

Investigation of other barrow plans suggests that variation from the standard design must have been practised at other sites. At Leśniczówka (KUJ-17) barrows 17/1 and 17/2 show a slight change in the direction of one of the long walls (in both cases the northern, Fig. 50). This can further be documented at Obałki (KUJ-22/1 and 4, southern wall; Fig. 51) and Wietrzychowice (KUJ-45/3, Fig. 53). Changes in the angles of both walls are noted at Gaj (KUJ-7/1, FIG. 54), Obałki (KUJ-22/2, Fig. 53) and Wietrzychowice (KUJ-45/1, Fig. 52). It is not possible to comment upon similar designs in the case of the other Kujavian long barrows since these were either too badly preserved or inadequately recorded.

The study of the external appearance of the Kujavian long barrows presents us with many problems. The question of derivation of this unique, idiosyncratic design will be discussed in detail at a later stage (chapter 10 ), but we should note that chronologically and spatially plausible prototypes are found locally in the form of the long houses of the *Late LBK* culture. That there were no absolute rules of layout of a barrow within a broadly defined plan is clearly seen in the variation of form among the individual barrows, particularly within a single site (*e.g.* Sarnowo). Some differences were undoubtedly the result of problems of planning and construction as well as of the skill of builders. That such differences within a single barrow complex are noted on more than one occasion suggests, however, that this variability is not entirely haphazard.

The Sarnowo site (KUJ-32), thanks to its size and detailed excavation, is particularly informative in this context. The spatial layout of the barrows on this site (Fig. 47), forming discrete groups, coupled with the consistency of group orientation (section 7.4) and architectural detail, suggests that this arrangement is far from accidental. Interpretation of this pattern is difficult but two immediate possibilities can be suggested: either the groups of barrows are chronologically different, or this site was shared for ceremonial purposes among two or more *TRB* local communities - each with its own 'architects' and builders (see also comments in chapter 10).

Although it seems reasonable to accept that barrows here were built individually over a period of time rather than simultaneously, we are unfortunately in no position to determine either the time span of the whole complex or that of individual groups. Save for one or two elements, pottery assemblages associated with the construction period lack diagnostic features and all seem to belong to the same - *Pikutkowo* - horizon (chapter 5 and 9). It is interesting however to observe that, as the evidence of barrows of a slightly later period (Gaj, KUJ-7; Wietrzychowice, KUJ-45 and Zberzyn, KUJ-47) makes clear, this phenomenon of constructional variability continues in Kujavia throughout the period of earthen long barrow construction.

CHAPTER 8      THE CONSTRUCTION AND INTERIOR STRUCTURES OF THE  
NORTH EUROPEAN EARTHEN LONG BARROWS

8.1      INTRODUCTION

Discussion of the construction and interior structures of earthen long barrows, which forms the main theme of this chapter, can be properly conducted only if we remind ourselves once again that the evidence upon which comparisons between various groups - or indeed individual monuments - are made, rests with a relatively small and unevenly distributed number of excavations. Taking into consideration the whole of the earthen long barrow province, the number of thoroughly excavated sites is disproportionately small (Table 1). As we have already seen, the areas of Mecklenburg, Lower Saxony and Western Pomerania are very much under-represented. Kujavia and the Jutland Peninsula claim a better record, but even there the quality of the available evidence varies from site to site. Older reports may occasionally be consulted in support of certain characteristics, but they are not sufficiently detailed always to be relied upon. Differing resources, academic objectives, scholarly attitudes and the personal interests of researchers in various areas underline this disparity even further.

Since the earthen long barrows of Northern Europe exhibit a number of structural components which clearly cut across regional boundaries, the ensuing discussion will rest upon elements characteristic of the whole tradition rather than of local groupings. Thus we shall dispense with the otherwise inevitable repetitions, and rather emphasise individual variations where such occur.

8.2      STONE AND TIMBER ENCLOSURES

Among the features recurrent throughout the whole of the earthen long barrow province the most common element is the stone enclosure (often referred to as a kerb; Chmielewski 1952; Gabałówna 1968b, 1968c, 1969a, 1969b; Jażdżewski 1936a, 1936b, 1970a; Laux 1979; Madsen 1979; Schuldt 1965, 1966a, 1966c, 1972; Sprockhoff 1952, 1954,



1966, 1967, 1975; Wiślański 1977, 1979). This structure (Fig. 55), or evidence thereof, is found in nearly all barrows, and normally consists of a close setting of large boulders delimiting an area either trapezoidal, rectangular or triangular in shape. Occasionally the stones are substituted by a timber frame, although presently this form is known mainly in the Jutland Peninsula (Faber 1976, Madsen 1979, Rieck 1982, Sterum 1983) with only isolated examples known outside this concentration (Bakker *et.al.*, 1969, Jażdżewski 1970a).



Fig. 55 Karsko (WPOM-15/1) - an example of a typical stone-built enclosure

It is interesting to note that some continental scholars concerned with the study of the earthen long barrows regard this stone setting as nothing more than a retainer for the earthen mound (Jażdżewski 1970a, 16). And yet a review of the structures contained within the enclosures (see below), the evidence of activities which

at various stages took place inside the enclosed area, as well as their absence beyond it, all suggest that this structure had many more functions than that of merely retaining the mound. Comparison between these stone enclosures and similar timber constructions beneath the British earthen long barrows is indeed striking, even if we allow for the argument over whether the latter remained visible or were covered by the subsequent mounds (Ashbee 1970, 37).

Evidence for the enclosures having been free-standing will become apparent further on in the discussion. It also seems that the enclosures remained visible and were not covered over upon the construction of the mounds. There is generally little evidence of mound material on the outside of the barrows which still retain their kerb. During the excavation of Krępczewo long barrow (WPOM-20) Wiślański was able to show positively that the mound had been piled up only inside the stone enclosure, and did not obscure the outside of the kerb. Here the soil (yellow clay) from the outside of the enclosure had been stripped throughout its length and used for the construction of the mound. This was clearly noted through changes in the structural content of the soil along various sectors of the mound, which corresponded to similar changes in the natural layers in the vicinity of the barrow. Moreover, many individual stones (particularly along the southern wall) had fallen outwards and some were additionally covered with small field stones from the interior stone mantle which must have slipped down on top of the fallen boulders (Wiślański 1977, 96).

The phenomenon of large stones falling outwards recurs with a regularity which leads us to assume that there was no mound to the outside of them. Sprockhoff observed it in the Sachsenwald barrows (LSAX-8; Sprockhoff 1952, 1954); it has been commented on by Jażdżewski at Wietrzychowice (KUJ-45/3, Jażdżewski 1936b) and noted at Karsko (WPOM-15), Dolice (WPOM-10, Wiślański *pers. comm.*), Stralendorf (MBG-25; Schuldt 1965, Fig. 5) and many other sites.

The fact that the stone enclosure was visible can be further confirmed in some 19th century reports. Pastor J. Ritter, who excavated many barrows in western Mecklenburg, always mentions that the *Riesenbetten* or *Hünenbetten* were surrounded by large stones. Such was

the case at Goldenbow (MBG-9, Ritter 1840d), Granzin (MBG-12, Ritter 1839), Helm (MBG-14, Ritter 1840a), Karft (MBG-15, Ritter 1842) and Perdöhl (MBG-18/1, Ritter 1840c). According to Ritter's observations, only at Perdöhl (MBG-18/2) was the earth so heaped-up that the tops of the stones did not show (Ritter 1841b). The attention to the smoothness and flatness of the outside of the kerb (occasionally even smoothed with clay - Krępczewo, WPOM-20; Wiślański 1977, 89), further supports the thesis that the kerbs were meant to remain visible.

Construction of the kerb presumably began with the collection of suitable building material, which in the case of nearly all the areas under consideration was abundantly available in the form of glacially deposited erratic boulders. It is evident from numerous excavation reports (Jankowska 1975, 1981; Jażdżewski 1936a; Liversage 1980; Schuldt 1965; Sprockhoff 1952, 1954; Wiślański 1977) that the builders took some trouble to produce a smooth and regular outer surface for the enclosure walls not only of large barrows but equally of smaller ones. This was achieved either by a careful selection of stones prior to construction - for example Sprockhoff comments upon the regular 'pillar-like' character of stones used for the long barrows in the Sachsenwald (Sprockhoff 1952, 24; 1954, 1) - or by the initial dressing of the boulders to the required shape and arranging them in such a way that the flatter sides faced outwards. This is seen among the Kujavian examples where the kerb has not suffered destruction (Wietrzychowice KUJ-45/3, Jażdżewski 1936b), and in Western Pomerania at Krępczewo (WPOM-20, Fig. 56), Karsko (WPOM-15, Wiślański 1977 and *pers. comm.*) and Łupawa (WPOM-25, Jankowska 1975, 1981).

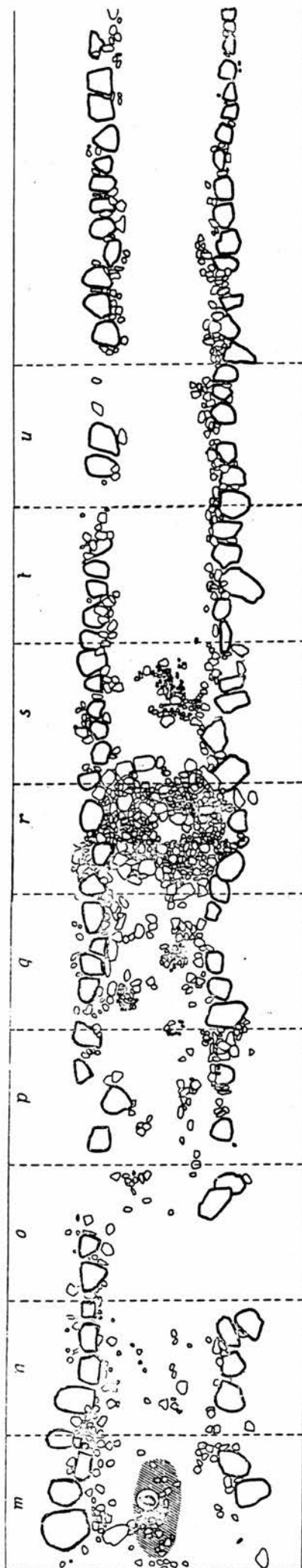
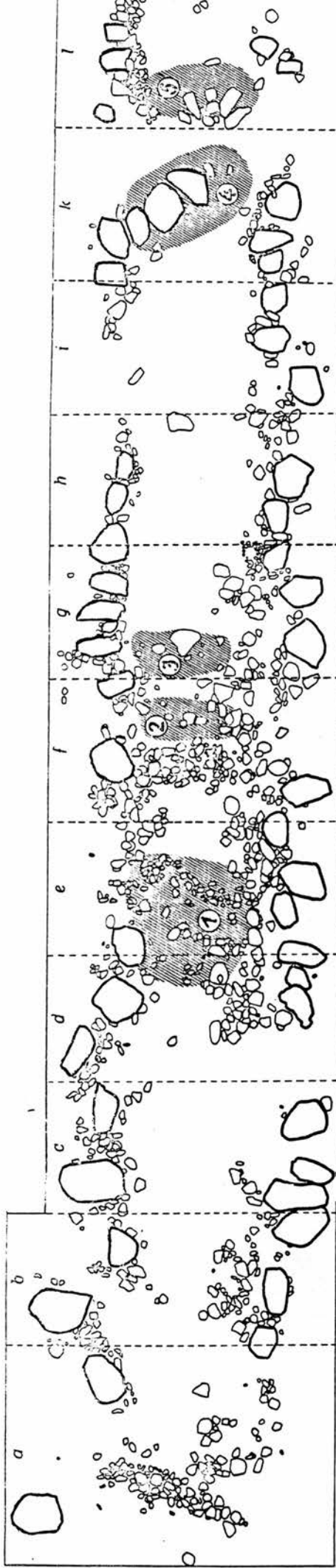
The preparation of the stones is still problematic because apart from the kerb stones themselves there is no evidence of where and how the stones were dressed. In the vicinity of a few sites, for example at Łupawa and Krępczewo, piles of building material (destroyed monuments?) have occasionally been found. Otherwise there is no evidence, be it in the form of rubble or of tools, associated with this activity. Unfortunately, in the majority of instances, excavations are limited to the mound itself, without proper investigation



Fig. 56 Krępczewo (WPOM-20) enclosure, showing arrangement of boulders with flat sides toward exterior (photo Wiślański)

of the surroundings where stones might have been prepared (for example Schuldt 1965). On the other hand the tool assemblages generally encountered in the earlier stages of the *TRB* (equally from the settlements and barrows) do not contain implements suitable for this purpose (see comments in chapter 5).

Precisely what steps were taken to lay out the intended plan of the enclosure is impossible to determine, although the evidence for the final form being known from the very beginning of construction is clear. At Stralendorf (MBG-25) the very gradual and regular narrowing of the enclosure, from 3,5m at the southern end to 1,5m at the northern end over a distance of 125m (Schuldt 1965, 11; Fig. 57), could hardly have been achieved without prior planning. Similarly,



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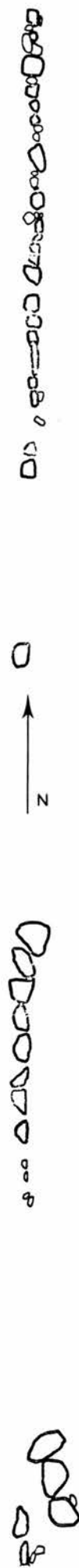


Fig. 57 Stralendorf long barrow (MBG-25, after Schuldt 1965)

the regularity of width of rectangular barrows such as in the Sachsenwald (LSAX-8; Sprockhoff 1952, 1954) and at Barskamp (LSAX-2, Sprockhoff 1975) - or indeed, the overall effect of the design at Wietrzychowice (KUJ-45/3, Fig. 53), with a perfectly regular 'tail' of 69m in length and only 2,5m in width - argue for a clarity of intention in design right at the outset. Moreover, planning evident at Sarnowo (KUJ-32, Fig. 48 and 49) with the individual quirks and characteristics of each monument combined within groups, equally suggests an original intention rather than a constructional afterthought.

There is very little evidence of the bedding trench having been dug to receive the stones. The very shallow trenches found under the mounds, where boulders have been removed or have fallen out, do not generally form continuous lines but show the actual places where stones must have stood. We cannot, however, exclude the possibility of the layout originally having been marked by a trench of some kind. Schuldt, for example, noted a shallow trench at Stralendorf (Schuldt 1965, 10). Such a trench need not have been deep, and the original traces in most instances would probably have been lost under the combined weight of stones and mound. This might also have been the case at Sarnowo (KUJ-23/8, Fig. 49), where small indentations apparently formed an irregular but continuous shallow trench (Wiklak 1982, 37). On the other hand it may simply indicate that there were no gaps between the closely set boulders and that these were simply manoeuvred into position and then firmly wedged with small stones. The evidence from the barrows in the Sachsenwald suggests that this latter method was used, and that the stones there simply 'sank' 20 - 30cm into the ground. No bedding trench of any kind was noted (Sprockhoff 1954, 1).

Turning to the vertical arrangement of the stones, two types of construction may be noted: that where the stones are roughly the same height along the entire length of the enclosure, and that where the stones have been arranged according to size starting with the largest and gradually becoming smaller along the length of the monument. The former type (for example Barskamp, LSAX-1; Bavendorf, LSAX-2; Sachsenwald, LSAX-8; Lindebjerg, DNK-8) tends to be found more



commonly in the western area of the earthen long barrow's distribution, while the latter appears more frequently in the eastern regions.

General principles behind the construction of the 'sloping' enclosures are the same as outlined above. The main difference is the varying size of the boulders. In the literature these monuments are always described as mounds which are "tall at the broad end and becoming lower towards the tail end" (Chmielewski 1952, 15; Jażdżewski 1970a, 16; Wiślański 1979, 256). The broad end wall was usually built of the largest boulders; between three and eight were used. Their individual size varied; at Gaj (KUJ-7/1, Fig. 54) one of the boulders was 2m long, at Wietrzychowice (KUJ-45/3, Fig. 53) the stones were 1,5m high and at Krępczewo the largest boulder weighed 7 tonnes and was 1,8m high and 1,5m wide. The long walls in the immediate vicinity of the broad end were also built of large stones which gradually became smaller towards the narrow end. In Kujavia many barrows may have terminated with a large boulder at the very end of the 'tail' (KUJ-45/3, Fig. 53).

When Chmielewski excavated the Sarnowo earthen long barrow complex (KUJ-32) he commented that each group of three barrows was built on two small summits and that the 'tails' of barrows 32/1, 2 and 5 were higher than their broad ends (Chmielewski 1952, 53-73). He further wrote that the middle of the mounds was lower than either end and claimed this was because the mounds were built on two elevations (broad end on one, 'tail' end on the other). Although he did not say so specifically, various comments in his description seem to suggest that he had attributed such a state of affairs to the extreme denudation of the mounds.

It is interesting therefore to compare his comments with the contour survey of the Sarnowo area (Fig. 47). First of all the plan makes it clear that each of the two groups of barrows was built not on two separate elevations but upon a continuous rise (this is confirmed by field observation at Sarnowo), and that the saddle in the middle of the mounds 32/1, 2 and 5 was therefore not a result of the underlying topography but must be attributed to other factors (possibly damage in earlier, antiquarian pursuits). Secondly, all the barrows



(except for 32/7 and possibly 32/9) were built across the contours in such a way that the ground level at the broad end was in each case considerably lower than the ground level at the 'tail' end (Table 5).

Table 5. Details of contour survey of Sarnowo (all measurements in cm in relation to local datum level at Om \*)

BARROW	GROUND LEVEL		TOP LEVEL	
	BROAD END	'TAIL' END	BROAD END	'TAIL' END
32/1	100,70	102,56	102,75	103,09
32/2	101,20	102,60	102,50	103,42
32/3	100,50	102,48		103,16
32/4	102,90	103,48	104,65	104,10
32/5	103,08	103,85	104,63	104,53
32/6	102,30	103,30	104,63	103,98
32/7	103,00	102,00	104,50	102,17
32/8	105,43	106,00	106,50	106,28
32/9	105,50	106,00	106,00	106,44

Some change in the ground level since the time of their construction until the present day is naturally expected, but the consistency with which this phenomenon is observed at Sarnowo suggests that the relative changes do not seriously alter the original topography.

This arrangement of the mounds (together with the meagre evidence on their height) suggests therefore that the stone enclosures were built in such a way that the top of each enclosure may in reality have been almost horizontal. Unfortunately, it is very difficult to estimate the original height of the mounds - the stones have mostly been removed in the past and the earthen mounds themselves severely denuded. However, if we accept that the 'tail' end was between 0,5 and 1m in height and the broad end originally between 2 and 3m in

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\* I wish to thank Dr. H. Wiklak, Muzeum Archeologiczne i Etnograficzne at Łódź, for supplying this information from a detailed contour survey of the site.

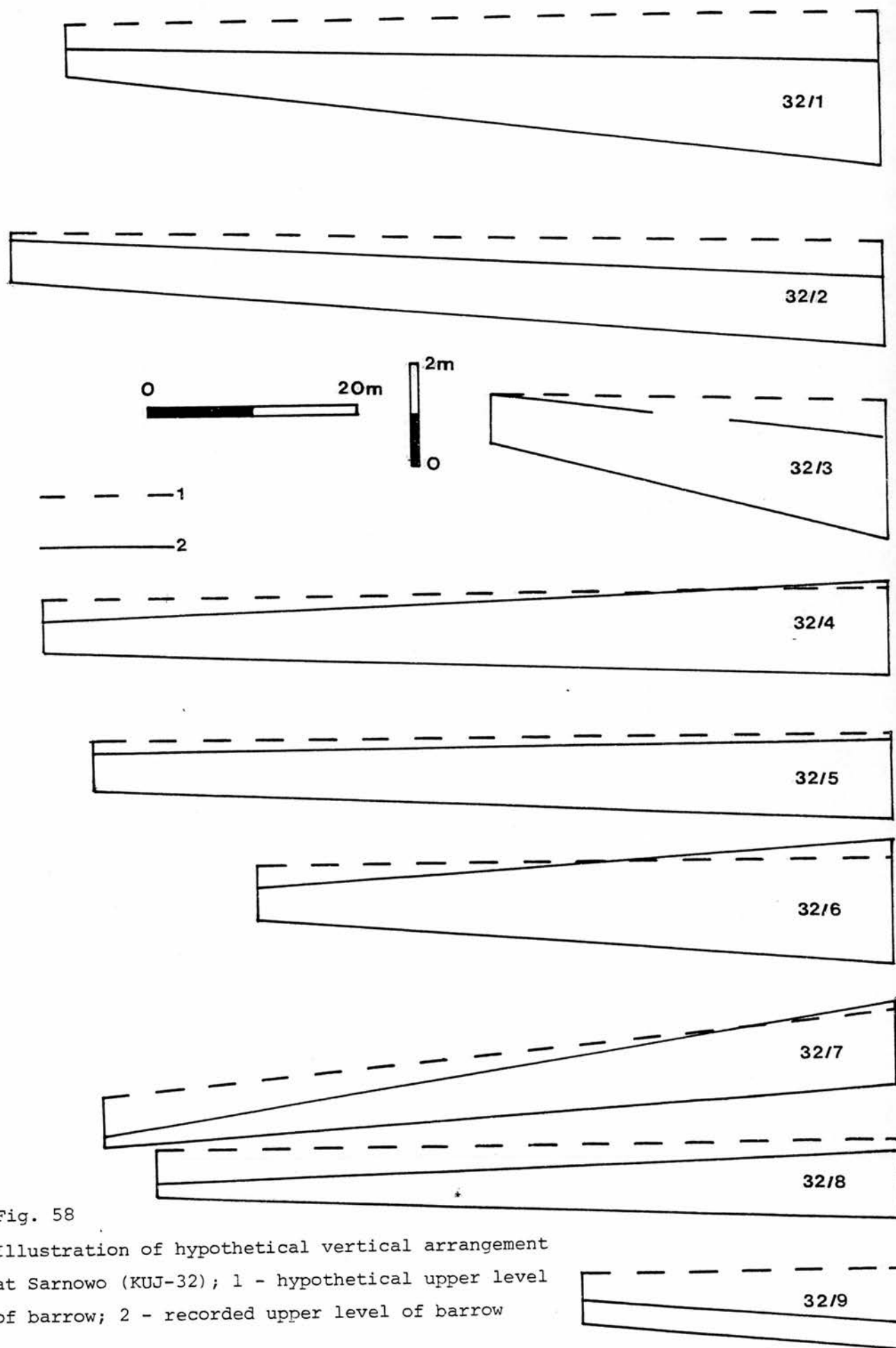


Fig. 58

Illustration of hypothetical vertical arrangement at Sarnowo (KUJ-32); 1 - hypothetical upper level of barrow; 2 - recorded upper level of barrow

height (Chmielewski 1952, 17) the resulting profile would, in absolute terms, present a more or less horizontal upper surface (Fig. 58). Thus the Sarnowo barrows would give the false impression of a rise, while in actual fact being horizontal, and the use of the larger stones in the lower lying area of the landscape would strengthen this effect.

It is interesting to note that the slope between the 'tail' and broad ends of barrows 32/4 and 8 is noticeably smaller than in the other examples (Table 5). The fact that traces of earlier settlement - and possibly cultivation (Fig. 49) - were found underneath these two barrows suggests that the ground level may already have been substantially flattened by earlier occupation. The changes of level noted at the other Sarnowo barrows are not evident here.

It is particularly unfortunate that, owing to the lack of contour surveys, a similar analysis cannot be conducted in relation to other sites where concentrations of barrows are found (for example at Wietrzychowice, KUJ-45; Obałki, KUJ-22 or Leśniczówka, KUJ-17). Evidence from recent excavations in Western Pomerania does however indicate that at least some other barrows may have been constructed in a manner similar to that just described. A contour survey of site 3 at Łupawa (WPOM-25) shows that some barrows were built with their broader ends lower down the slope (Jankowska 1975, Fig. 2). On the other hand the economy of space at this site - fitting as many barrows into as small a space as possible - may have been responsible for others being located differently.

Two more sites in Western Pomerania show a similar arrangement. An interim plan of the long barrow at Dolice (WPOM-10, site 4; Wiślański *pers. comm.*; Fig. 59) shows the contours clearly dropping down in the direction of the broader end; the mound profile is nearly horizontal. At Krępczewo (WPOM-20) the contour survey did not extend far enough beyond the mound (Wiślański 1977, Fig. 2) and it is difficult to relate this to the topography of the immediate surroundings. However, a section along the northern wall of the stone enclosure (less disturbed than the southern wall) shows that the difference in level of the tops of the stones between the two ends of the barrow is minimal, and some of the stones clearly show a flattened top (Fig. 60).

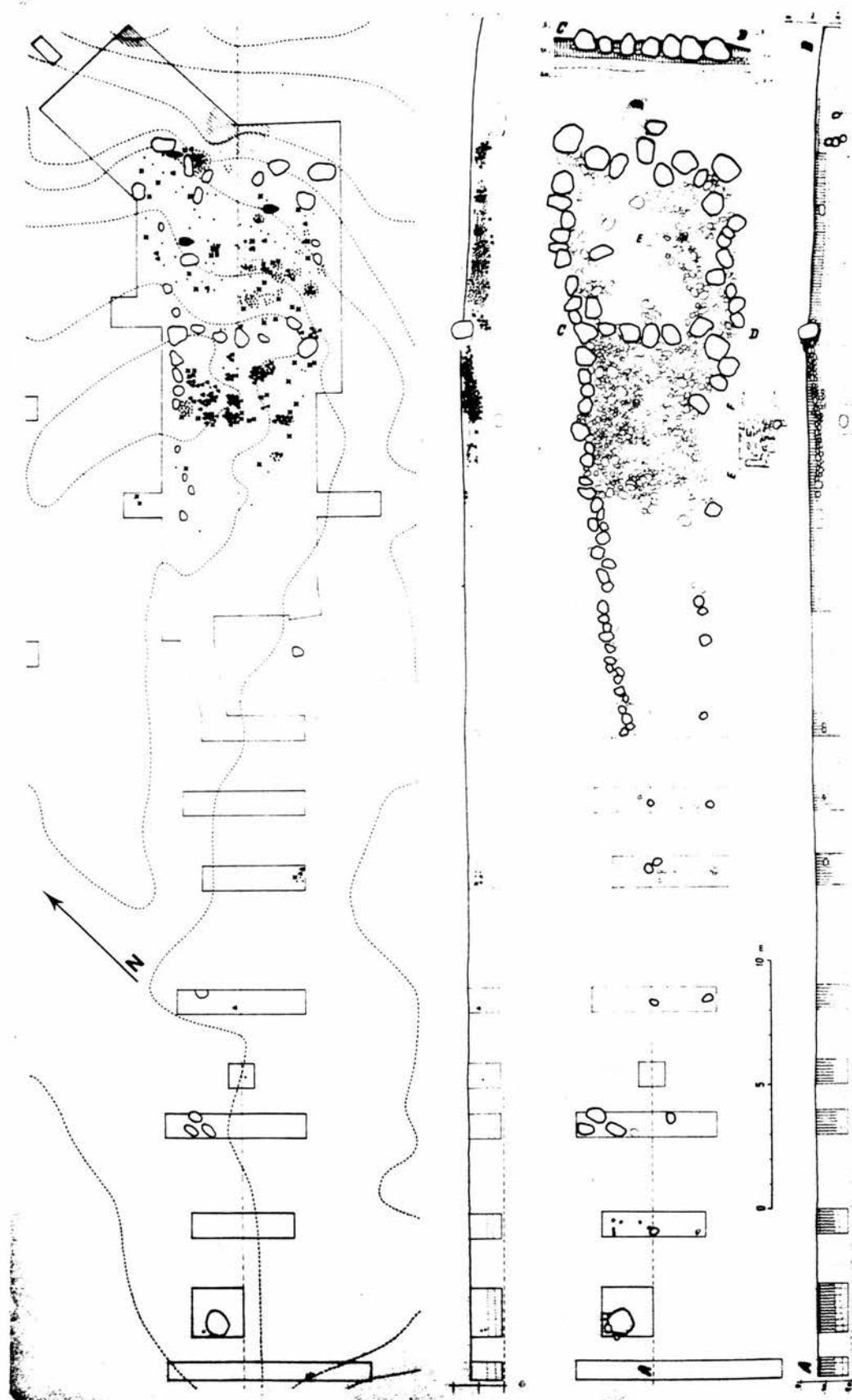


Fig. 59 Dolice long barrow (WPOM-10; after Wiślański - interim, unpublished plan)

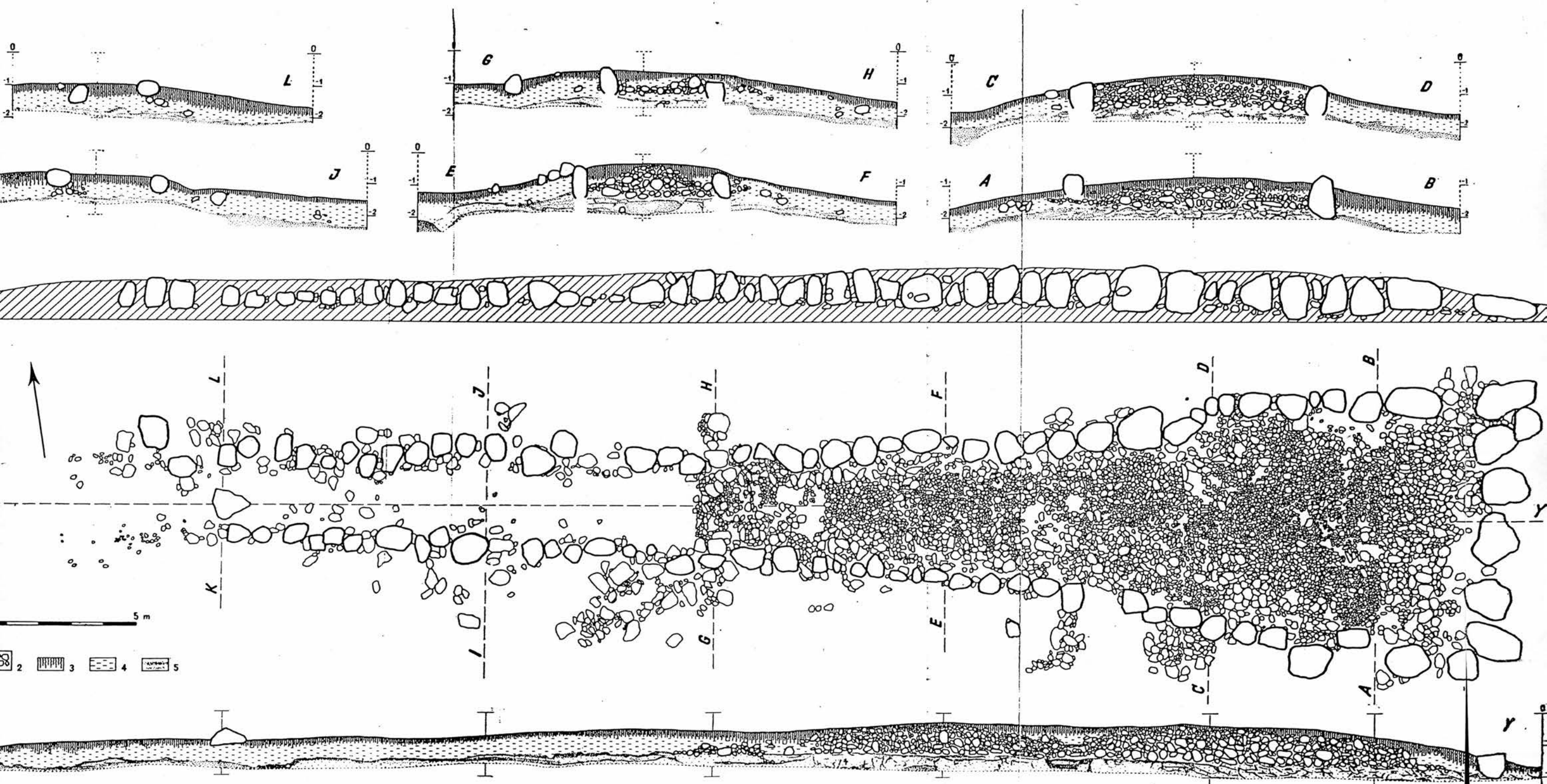


Fig. 60 Krępczewo long barrow (WPOM-15, after Wiślański 1977)



Moreover, the bigger stones at the wider end have been dug deeper into the ground than those at the narrower end, and the resulting arrangement gives the impression of a wall with a flat rather than a sloping top.

The above interpretation is, naturally, open to discussion; more evidence is needed from sites with comparable topography and barrow location. Possible reasons for such an arrangement of monuments in the landscape will be considered later (chapter 10), but the examples described above make it very clear that consideration should be given not only to the investigation of the mound but equally to the surrounding topography, since only then can the relationship between them be understood.

An interesting feature of stone enclosures has come to light during the excavation of a 'cemetery' complex at Łupawa (WPOM-25). Among the monuments of this complex were several enclosures which had an additional construction attached to the outside - a sort of 'bench' of small stones, up to 2m wide and 0,3m high (Jankowska 1980, 99; Weber 1983, 11, 23; Fig. 61). According to the excavators the function of this structure was to buttress the kerb against the pressure of the mound; unfortunately it is not clear whether this 'buttressing' is contemporary with the construction of the kerb or with the raising of the mound.

A similar kerb arrangement with an outer spread of stones along the whole length of the enclosure was found at the Lindebjerg long barrow (DNK-10; Liversage 1980; Fig. 62.). Here the enclosure was built as a free-standing and stable construction of large blocks of granite and gneiss, supported on and firmly wedged with smaller stones. The outward pressure of the mound was seemingly appreciated from the very beginning of construction since the large blocks and 'filling-in' stones formed a framework whose tendency would have been to fall inwards rather than outwards - a tendency in due course counter-acted by the earthen mound (*Ibid.* 91, Fig. 5).

The stone spread to the outside (called 'cobbling' by the excavator) was found along most of the enclosure's length, although it was badly damaged in many places. It was up to 2m wide in the middle of

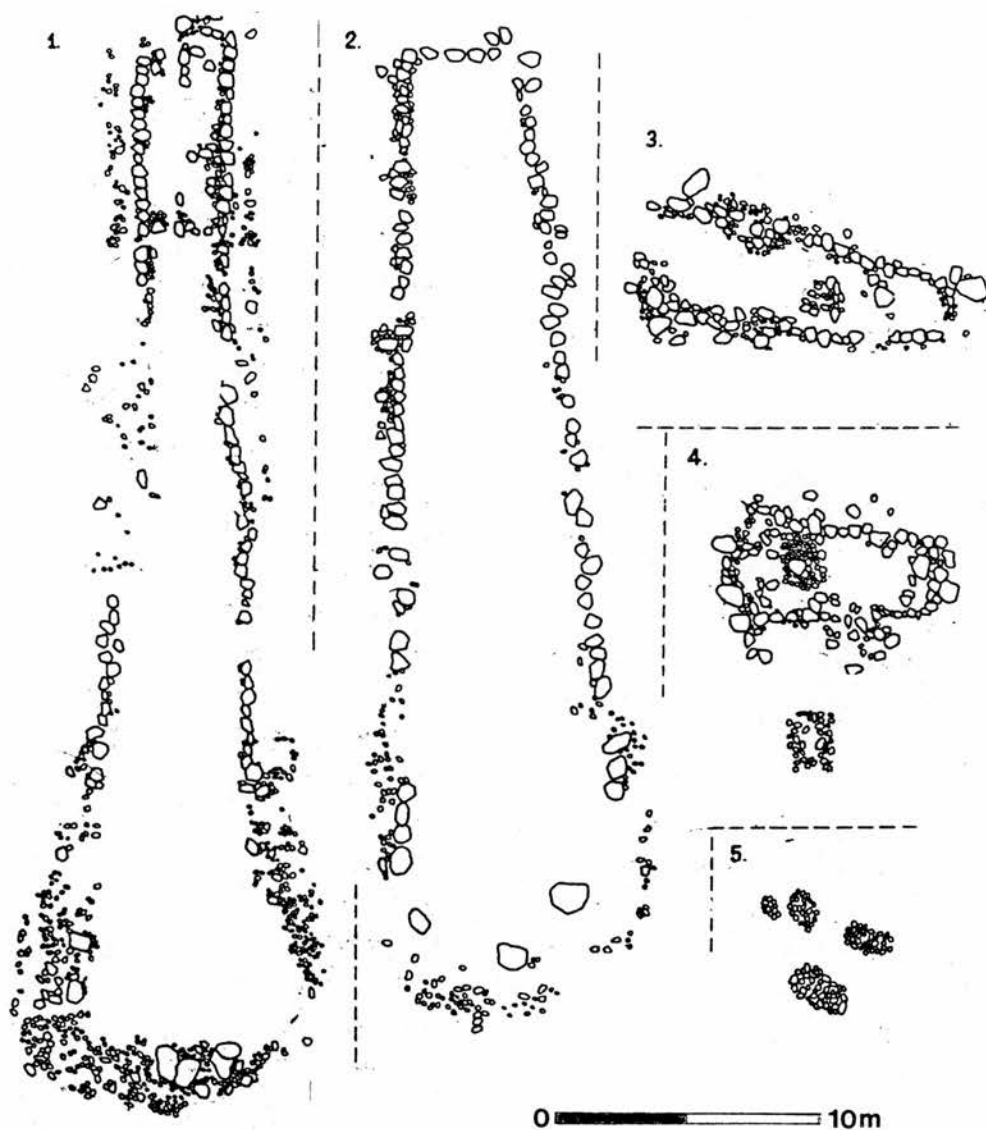


Fig. 61 Barrows from the Łupawa complex (WPOM-25: 1) 25/29, showing traces of stone 'bench' along the outside, 2) 25/30, 3) 35/16, 4) 25/17, 5) 25/19 and 25/20, after Jankowska 1981)



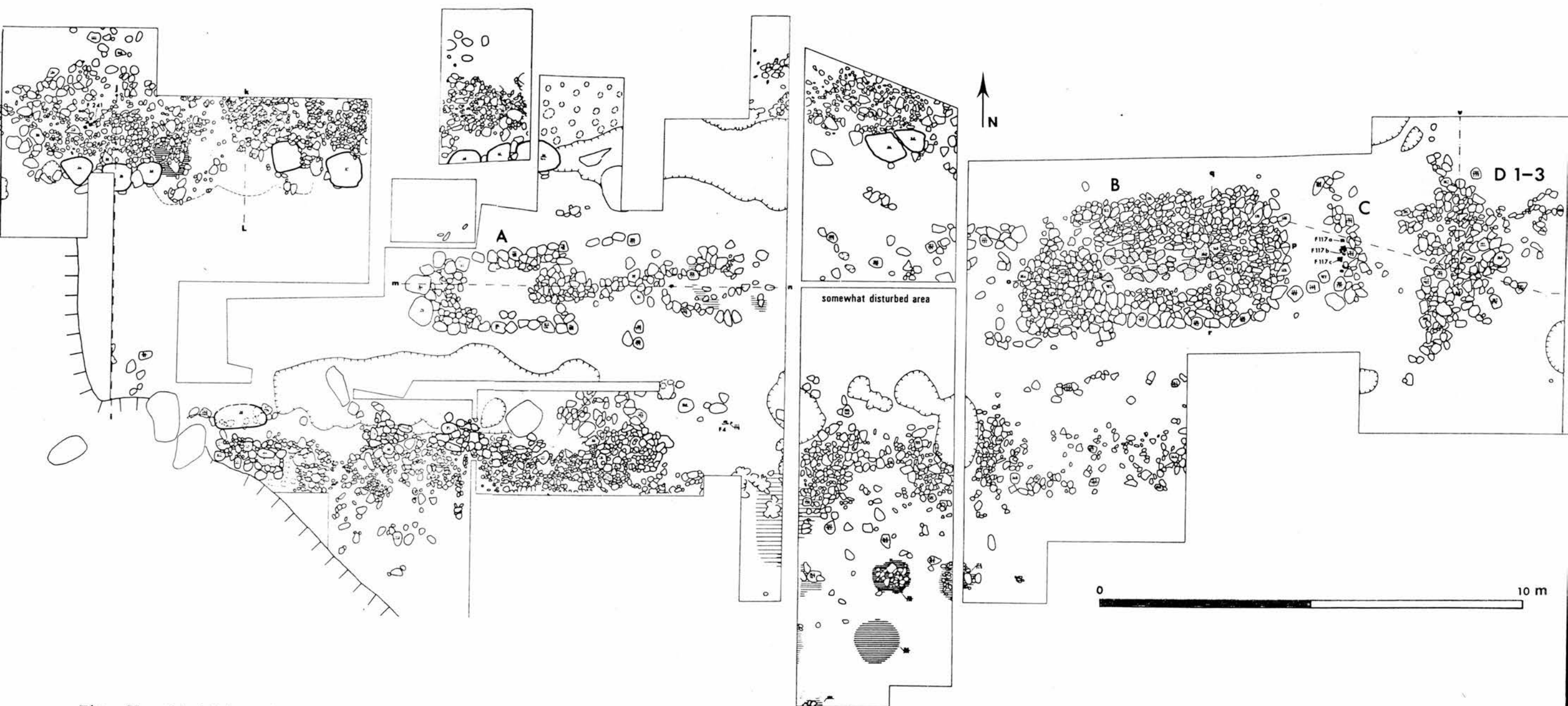


Fig. 62 Lindebjerg (DNK-8), eastern part (after Liversage 1980)

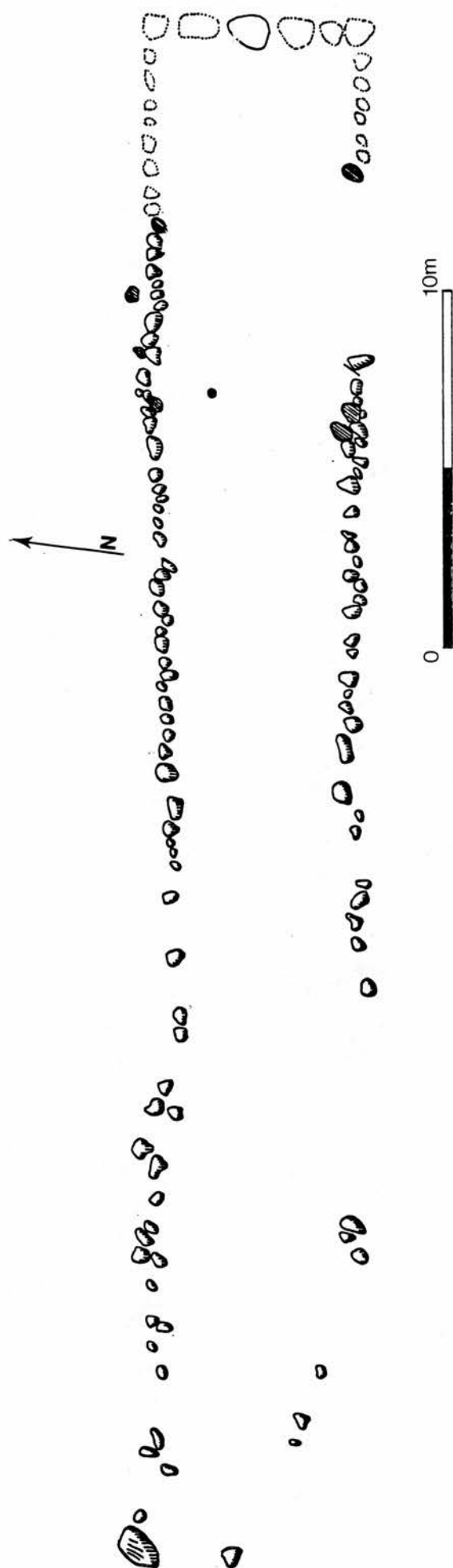


Fig. 63 Wartin long barrow (WPOM-50, after Siuchniński 1969)

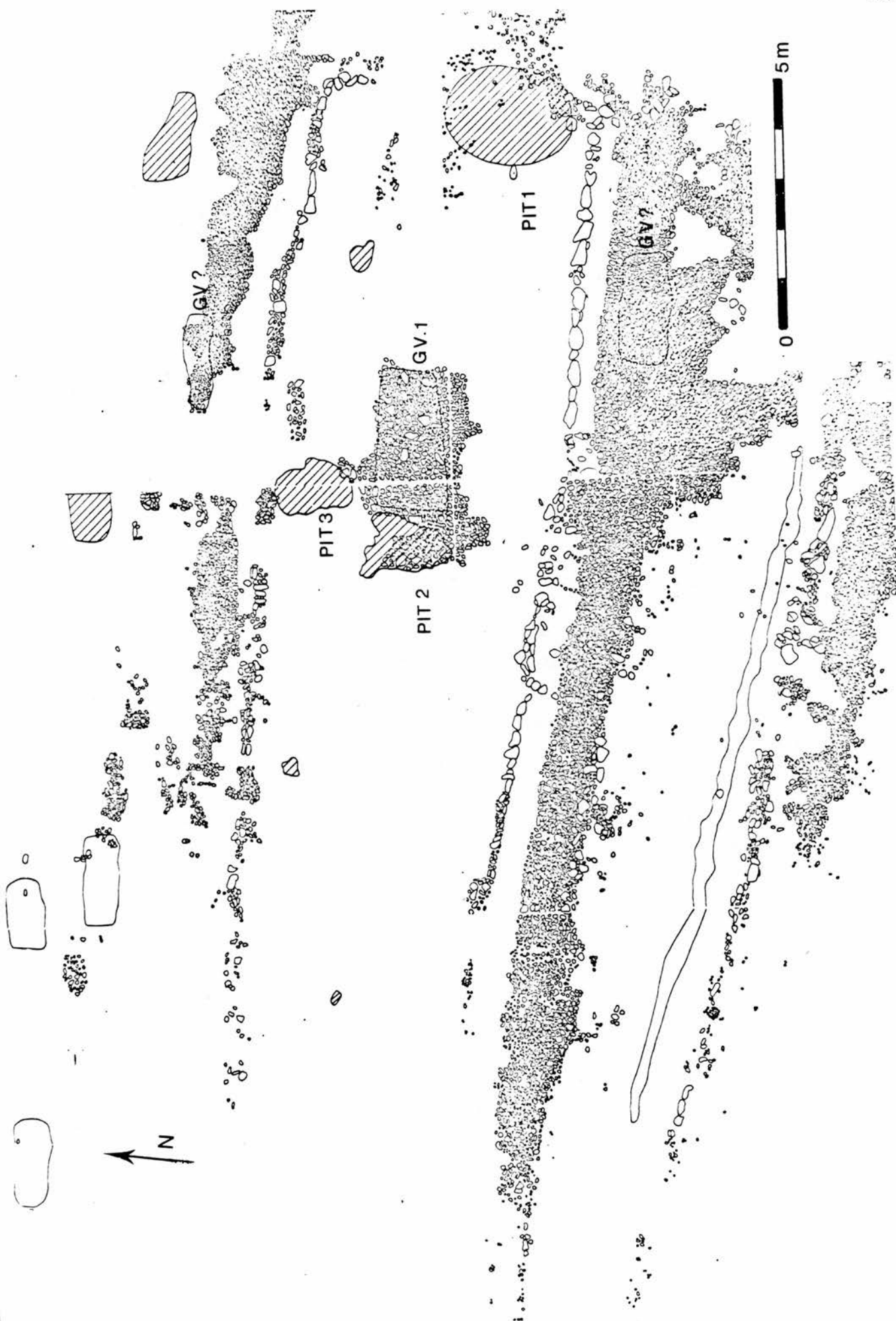


Fig. 64 Miłocin-Kolonia long barrow (LPOL-3, after Jastrzębski - unpublished)

the barrow, narrowing towards the eastern and western ends. It sloped gently upwards towards the kerb, being placed on a layer of sand whose thickness increased towards the barrow. The character of this 'cobbling' suggests that it did not have a structural function but apparently served to enhance the external appearance of the monument, covering the foot of the stone enclosure and disguising the gaps at the base of the boulders (*Ibid.* 92).

In view of the evidence from Lindebjerg it is arguable whether the stone spread at Łupawa was indeed meant to buttress the kerb. There is evidence that some of the boulders were tipped inwards (Weber 1983, 23) and the stone scatter itself does not seem to be substantial enough for such a purpose. The nature of this feature suggests a visual rather than a structural purpose.

Some barrows at Łupawa (WPOM-25/19, 20 and 21) differ from those described so far in having their kerbs built of small stones rather than boulders. The enclosures define a rectangular or trapezoidal area between 2,4 and 2,8m in length. The stones used in their construction are on average 40cm in diameter (Jankowska 1980, 101). This type of construction is not very common. The only other examples which may be related to this mode of building are represented by an enclosure at Wartin (WPOM-63, Siuchniński 1956, 1969; Fig. 63) where smallish field stones have been used, and by those in Little Poland (for example Miłocin-Kolonia, LPOL-3; Jastrzębski *pers. comm.*; Fig. 64) where building material in the form of large blocks of stone is not locally available. It may well be that at Łupawa this represents a purely local development, perhaps in response to the shortage of building material, or that it is a reflection of different architectural intent.

The discovery (or confirmation?) of this style of enclosure is important for two reasons. Firstly, we may perhaps dispense with the concept of a 'degenerate form' and accept that, in some areas at least, the use of small stones for enclosure construction was normal practice and does not reflect a deterioration in building standards (*cf.* comments of Jażdżewski 1970a, 34-35) but may imply a different function. Secondly, it may help us to interpret the monuments which seemingly

had neither barrow nor stone kerb. Some sites on the Jutland Peninsula fall into this category (for example Rustrup, DNK-14). Thus in areas which have been under heavy agricultural use, or where monuments have suffered from destruction, the possibility of small-stone enclosures, today destroyed beyond all recognition, should not be ignored.

While stone enclosures are relatively well documented throughout the North European Plain, timber-built enclosures are only now being recognised, mainly owing to research being carried out in Denmark, as an alternative form of construction. A few timber-framed earthen long barrows have been known for some time (for example at Lublin-Sławinek; Jażdżewski 1970a, 35) but only now are we beginning to consider them as intrinsic elements of the North European earthen long barrow tradition.

Currently there are six definite examples of timber-built enclosures known from Denmark: Bygholm Nørreremark (DNK-4, Rønne 1979), Harreby (DNK-6, Rieck 1982), Mosegården (DNK-10, Madsen 1979), Surløkke (DNK-19, Sterum 1983), Tegleværksgården (DNK-20, Faber 1976) and Troelstrup (DNK-22, Kjaerum 1977). There are also known structures which may have been constructed using both stone and timber (for example Stengade, DNK-18) as well as a number of monuments in which only scanty traces of an outer timber framework have survived (for example Østergård, DNK-12).

Since nearly all these sites are of recent discovery their comprehensive interpretation will not be possible until the evidence is published in full. In the meantime a number of characteristic features may be noted. The main feature associated with these sites is an outer framework of timber posts set vertically in a continuous foundation trench (Fig. 65 and 66). Such a trench surrounded either a rectangular (DNK-10 and 22) or a trapezoidal area (DNK-4, 6, 19 and 20) which varied in length between 14 and 90m, and in width between 1.6 - 2 and 15m. The evidence of a timber framework may either be inferred from the nature of the fill in the foundation trench (e.g. Troelstrup, Kjaerum 1977, 21 and Surløkke, Sterum 1983, 34) or seen directly in traces of timber posts which decayed *in situ* (e.g. Tegleværksgården, Faber 1976, 7) or suffered destruction by

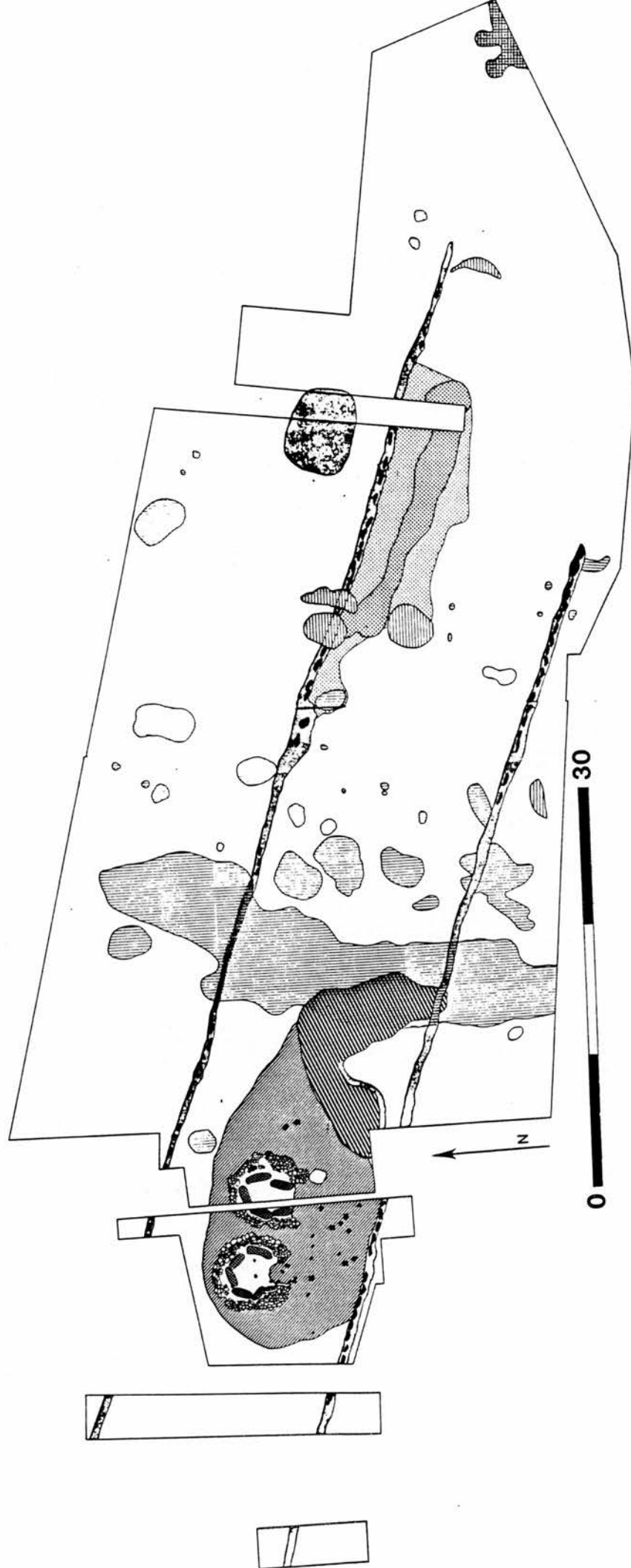


Fig. 65 Mosegården long barrow (DNK-10, after Madsen - not yet published)

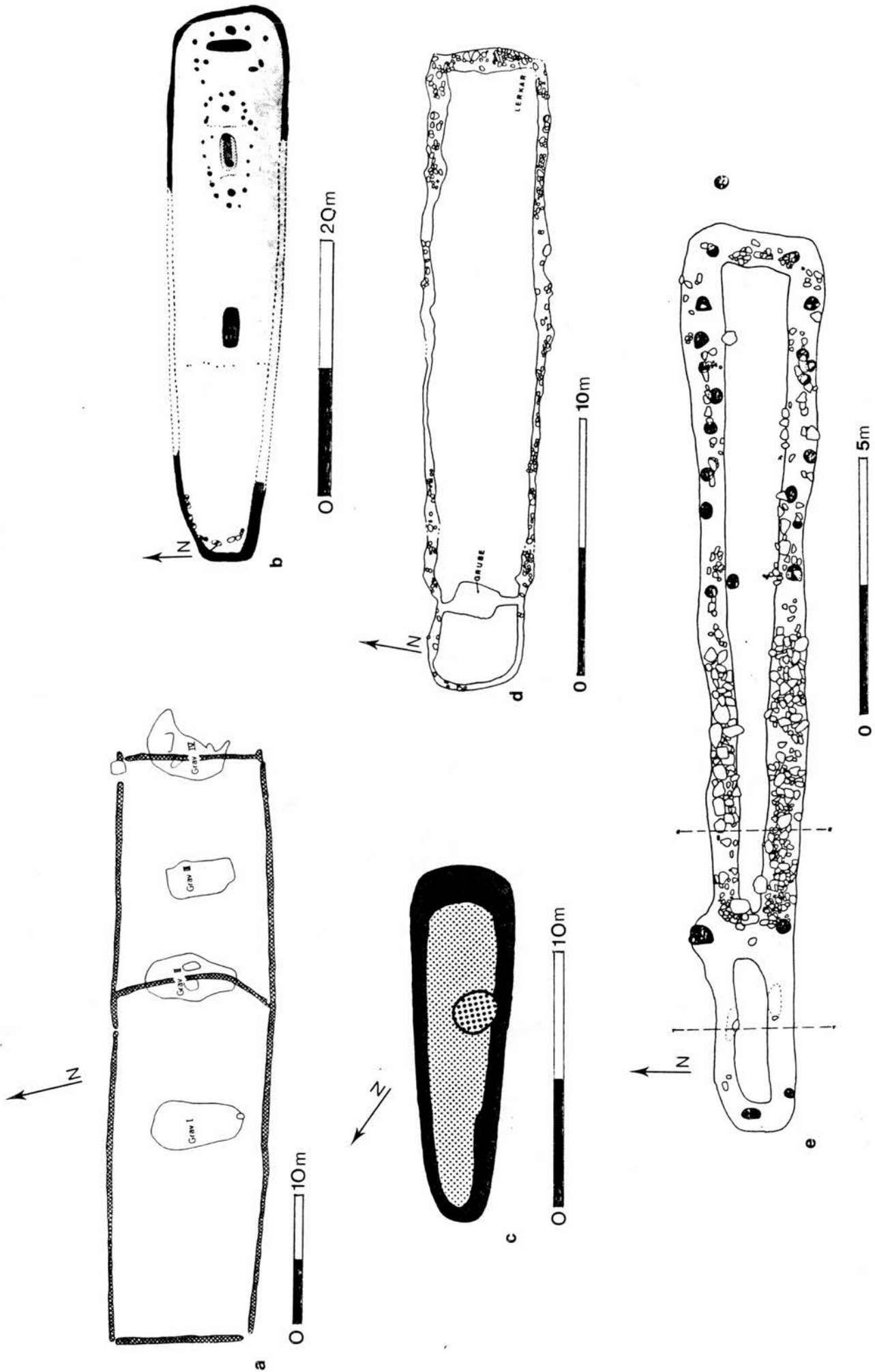


Fig. 66 Danish barrows with timber-built enclosures: a) DNK-22, b) DNK-4, c) DNK-20, d) DNK-19, e) DNK-6 (various sources)



fire (*e.g.* Harreby, Rieck 1983, 98).

Although there is no direct evidence of the above-ground construction of timber enclosures, differences in the size of foundation trenches and posts, as well as in the distribution of posts within the trench, suggest that the enclosures also differed in external appearance. On occasions the timber posts formed a solid wall. This may be seen at Mosegård (DNK-10, Fig. 65). Here timber posts used in the construction were obtained from tree trunks (0,85m in diameter) which had been split into three parts, the inner being in the shape of a plank (Madsen *pers. comm.*). Only the outer segments were used and these were placed in the trench one beside the other with the curved edges to the outside, possibly giving a 'corrugated' appearance.

At Tegleværsgården (DNK-20, Fig. 66) smaller posts, of between 0,20 and 0,30m in diameter, were placed at 0,10 - 0,20m intervals to a regular depth of 0,60m (Faber 1976, 7). At the eastern end however the foundation trench was both deeper (up to 1,2m) and wider (up to 1,6m), revealing traces of substantial posts within a heavy stone packing (*Ibid.* Fig. 3). An exceptionally wide trench of unspecified depth, with evidence of heavy stone packing, was also noted at the eastern end at Surløkke (DNK-19, Fig. 66) and an equally wide (up to 1,6m) but stone-free trench terminated what the excavator thought was the original end of the enclosure (Sterum 1983, 34). These deep foundation trenches with evidence of heavy timber construction are comparable to similar features found at other Danish earthen long barrows (for example Barkaer, DNK-2; Østergård, DNK-12 and Rude, DNK-13; see section 8.4)

On the other hand no heavy timber construction was observed at Harreby (DNK-6, Fig. 66), where the trench was only 0,20 - 0,30m deep at the eastern end but up to 0,95m in depth along the side (Rieck 1982, 98). The individual posts of 0,25 - 0,35m diameter were irregularly spaced between 0,5 and 1m apart. Stronger eastern end constructions were also not observed at Troelstrup (DNK- 22, Fig. 66) or Bygholm Nørremark (DNK-4, Fig. 66) although in the latter example a separate eastern end structure was found (see section 8.4).

The Stengade structures (DNK-18/1 and 18/2, Fig. 67) offer evidence of enclosure construction using both stone and timber materials. Originally thought to represent habitation structures (Skaarup 1975), they are now considered to represent the remains of burial structures preserved beneath ploughed-up long barrows (Glob 1975, Madsen 1979). Although the possibility of the Stengade monuments incorporating elements of earlier domestic structures must not be ruled out, the fact that settlement debris were freely mixed below and between the stone foundations (Skaarup 1975, 15) shows clearly that the foundations post-date the occupation of the site. The character of the structures, the similarity of their construction and interior arrangements to other earthen long barrow monuments, as well as the extreme narrowness of Stengade 18/2, fully support their interpretation in terms of a non-domestic function.

The above-ground appearance of the two enclosures is difficult to interpret owing to a total decay of organic components, but the layout of the stone foundations, as well as traces of post-holes (especially in 18/2, Skaarup 1975, Plan 4), suggests a combination wall of horizontally-placed timber planks in juxtaposition with upright timber members, the whole very probably giving the appearance of a vast timber chest placed within a stone setting. The ruler-straight stone edges, particularly clearly seen in Stengade 18/2, offer good evidence for horizontally-placed timbers. The same features were observed on a smaller scale in connection with interior structures at Lindebjerg (DNK-8, see section 8.4).

A further parallel in construction may be drawn from the stone spread surrounding both of the Stengade structures, which resembles in many details the 'cobbling' associated with Lindebjerg (see above). The heavy construction of the eastern end at Stengade 18/1 corresponds to the similar arrangements already noted at other sites, and the bipartite nature of the interior (each segment with its own grave?, Glob 1975, 13) corresponds closely to the arrangements at Troelstrup (DNK-22; Fig. 66). The evidence for planks set within a stone framework also suggests an interesting possible interpretation of some stone enclosures with double stone walls from Mecklenburg and Western Pome-

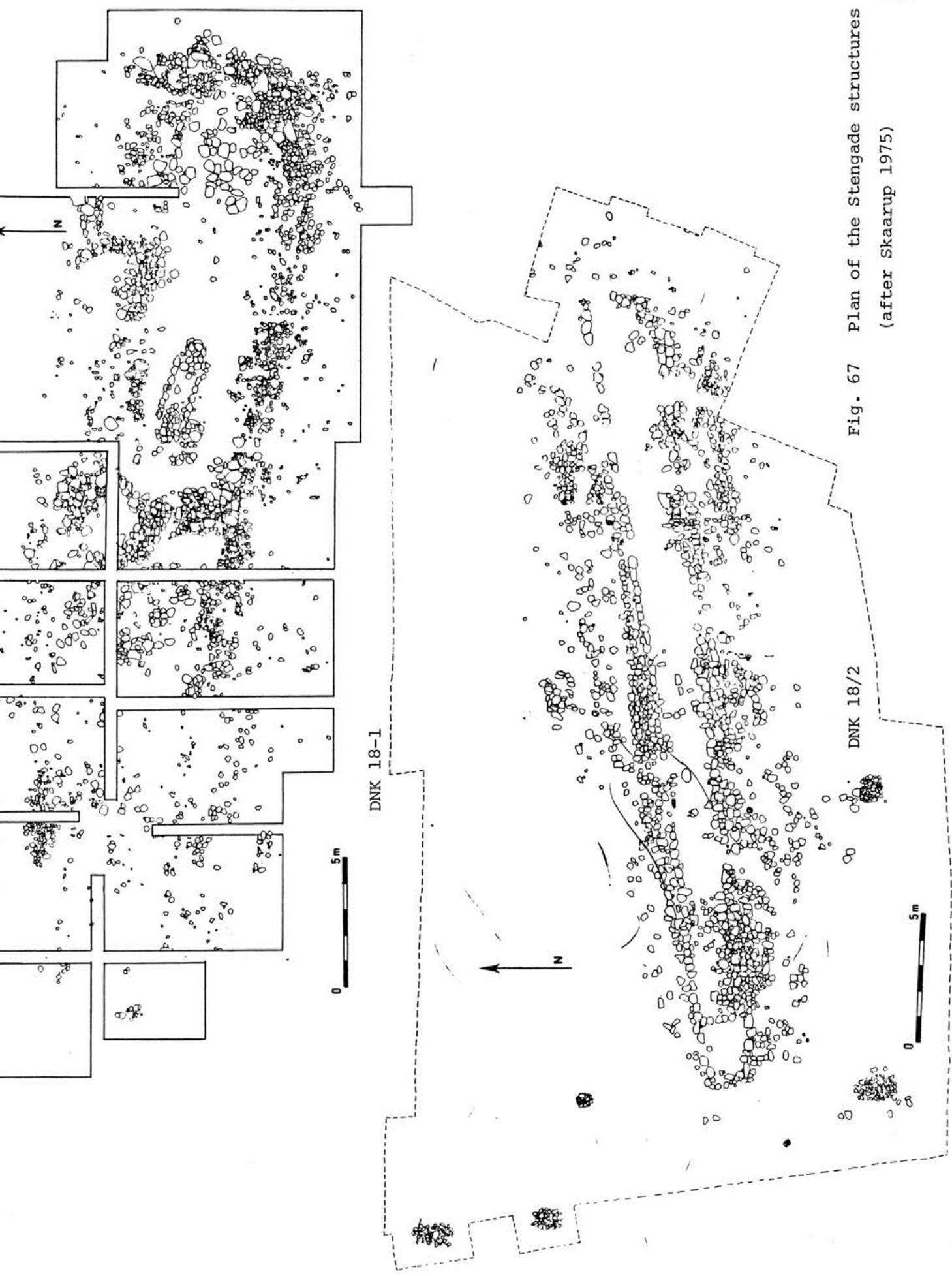


Fig. 67 Plan of the Stengade structures  
(after Skaarup 1975)

rania (for example Pöglitz, MBG-19 or Karsko, WPOM-15/1), namely that timber planks may have been set between the two parallel rows of stones to provide additional (higher?) walling.

Few other sites offer evidence of a surrounding timber framework. Individual post-holes have been identified at Østergård (DNK-12, Madsen 1979, 305; Fig. 87) and these could represent the traces of some sort of retaining structure, possibly involving timber uprights and wattlework. On the other hand, in view of the substantial concentration of domestic debris associated with the graves, it is equally possible that the post-holes represent no more than traces of earlier domestic structures. Unfortunately, the destruction which affected these two monuments had progressed too far to allow a positive identification. Similarly at Barkaer (DNK-2, Glob 1949, 1975; Fig. 88) some sort of revetment would be expected to have retained either a low mound or possibly a wind-blown deposit. No details of construction of the side walls are presently available although Glob does mention stone supports along the edges of the structures (Glob 1949, 4) and these may suggest an arrangement of planks similar to that at Stengade.

Very little information about timber enclosures of mortuary association is available from other regions of the *TRB* culture. A timber enclosure apparently associated with the earthen long barrow at Lublin-Sławinek (LPOL- 2) is often quoted but no data from here have yet been published (Bakker *et.al.* 1969, 223; Jazdzewski 1970a, 35); until such time, no interpretation is possible. The partial excavation of a barrow at Stradów (LPOL- 6; Gromnicki 1961) did reveal stretches of a timber-filled trench, but these are more appropriately interpreted as traces of a timber structure in close association with the grave (see section 8.4). Total excavation of this site is necessary.

However, the discovery in the late 1960's and early 1970's of two mortuary enclosures at Bréžno, in north-western Bohemia (Pleinerová 1980), suggests that this form need not have been of such a limited distribution as present evidence might suggest. Here east-west oriented foundation trenches, with traces of vertically placed

timber posts, delimited a smaller trapezoidal enclosure, 24 x 2,5 - 3,2m in size, and a larger rectangular structure which originally must have been in excess of 143m in length and only 4m in width throughout (*Ibid.* Fig. 4 and 13).

The interior of the smaller enclosure was divided by a transverse timber wall into two unequal parts, and contained two individual graves in its eastern segment. The long enclosure was undivided; it contained three regularly spaced graves and at the eastern end a rectangular fore-building, whose foundation trench was twice as deep as that of the rest of the enclosure. The meagre finds point to a general *TRB* culture horizon (*Ibid.* Fig. 22) although of the two C-14 dates, 3140±45 bc (GrN-8803) and 2215±45 bc (GrN-8802), only the former is compatible with *TRB* culture chronology (see chapter 5). However, as the excavator rightly observed, more dates are necessary.

In spite of the strong individuality of these two structures, features such as the foundation trenches with timber posts, the individual inhumations - albeit crouched in the southern manner - and the possible existence of low mounds suggest that we are here clearly dealing with a phenomenon complementary to that observed in Northern Europe.

In this context it is interesting to mention one more site from Little Poland: that of Niedźwiedź (LPOL- 5, Burchard 1973; Fig. 68). The structure here was also revealed in a foundation trench, with traces of vertical posts, which delimited a trapezoidal area just under 50m in length, and between 3,2 and 9,5m in width. The trench was continuous, save for a 2m gap in the middle of the eastern end, and traces of timber posts, decayed *in situ*, were clearly visible especially along the northern side. The average depth of the trench was between 0,70 and 0,80m, while the eastern side was at least 1m in depth.

No finds were associated with the trench or the interior, with the exception of a Corded Ware culture crouched inhumation at about 5m from the eastern end. This structure has been interpreted as a *Late LBK* house (Burchard 1973, 47) but, apart from the familiar shape, there are many factors which point against such an interpretation. There are

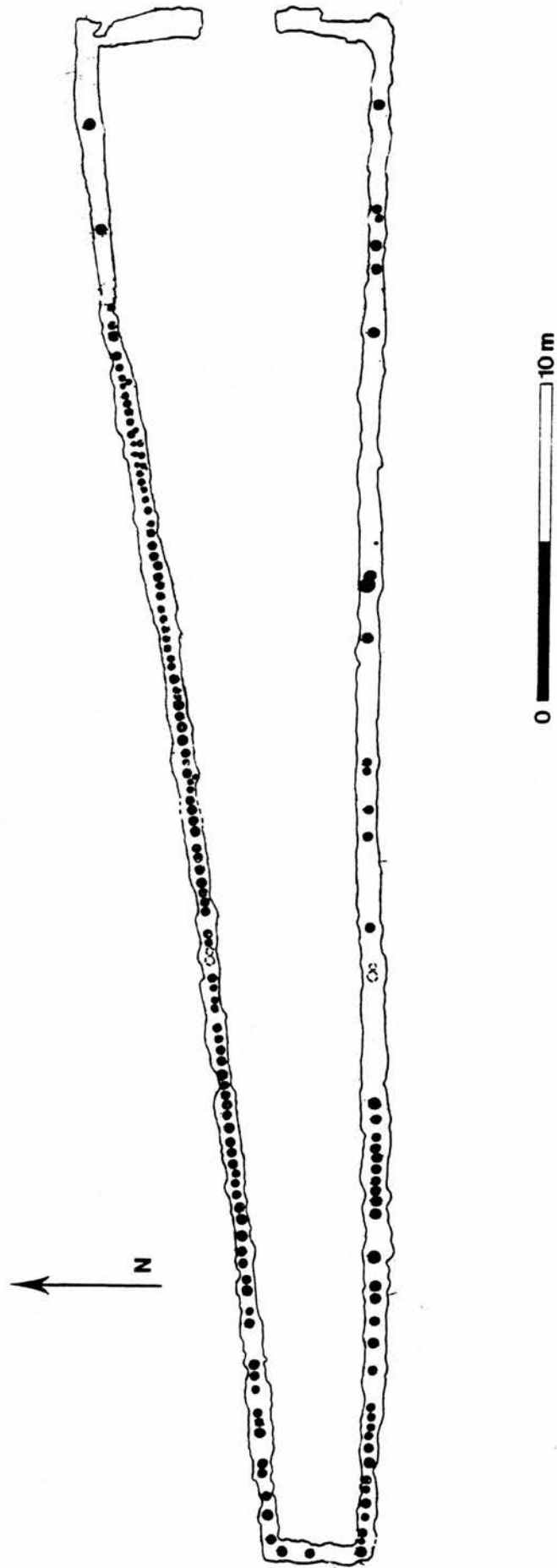


Fig. 68 Plan of the 'long house' at Niedźwiedź (LPOL-5, after Burchard 1973)



no features associated with the interior which could indicate a domestic function, although a pit beyond the house contained a *Late LBK* pottery sherd. The structure is oriented east-west, which is atypical of *Late LBK* houses. Moreover, it is not only located 50m north-west of an extensive *TRB* settlement but also situated on the extremely exposed edge of an upland - all factors typical of earthen long barrow location (see chapter 7). The existence of a Corded Ware culture grave, should it represent a secondary feature, may indeed echo a tradition of funerary/ritual rather than of domestic association for this so-called long house.

A comparison of evidence of stone and timber enclosures reveals, in spite of different materials used in construction, a number of similarities. They are comparable in size as well as in shape. Unless the stone-built enclosures had additional superstructures of timber, their height would have been determined by the size of the stones used in their construction. Detailed estimates are not possible since many kerbs have been robbed of their stones, but where evidence does exist it suggests that stones up to 1,5m in height may have been used (for example at Wietrzychowice, KUJ-45/3; Karsko, WPOM-15 or Stralendorf, MBG-25); on average, however, the enclosures would have been lower than that, and this is especially true of the Lower Saxon and Danish enclosures.

The actual height of the timber enclosures is unknown but it is possible to estimate the height of the walls on the basis of evidence recovered from the foundation trenches. In a recent discussion of the earthwork enclosure at Balfarg, Fife, which contained upright timbers set in a circle, Mercer expanded upon the generally accepted concept of a relationship between the depth of a post-hole and the length of a timber post set within it (Mercer 1981, see especially section 9). Using his optimal ratio of 3,5:1 between the length of a timber and the depth of a post-hole, the depth of foundation trenches has been used to suggest the possible height of timber enclosures (Table 6). These values may of course be accepted only as approximate and the sample of data available is very small, but the figures do appear to suggest that the timber enclosures may



have been slightly taller than their stone-built counterparts, being on average between 1 and 1,7m in height.

Table 6. Illustration of possible heights of timber enclosures (all measurements in m\*)

BARROW	DEPTH OF TRENCH		LENGTH OF TIMBER		HEIGHT OF ENCLOSURE	
	AVERAGE	E END	AVERAGE	E END	AVERAGE	E END
DNK-4	0,10-0,70	0,20-0,30	0,35-2,45	0,70-1,05	0,25-1,75	0,50-0,75
DNK-6	0,70-0,80		2,45-2,80		1,75-2,00	
DNK-19	0,40-0,70		1,40-2,45		1,00-1,75	
DNK-20	0,60	1,20	2,10	4,20	1,50	3,00
DNK-22	0,50		1,75		1,25	

This difference would have been particularly noticeable in Denmark where stone-built enclosures, to judge by such examples as Lindebjerg (DNK-8), tend to be smaller - a fact which appears to be further supported by the very low height of the earthen mounds. It is difficult to determine the reasons for such a difference but, taking into account the fact that enclosure walls may have been solid rather than in the form of a colonnade, it might be suggested that such a design was intended to ensure the secrecy of certain activities within the enclosure and possibly to reinforce a division between participants and mere observers.

The differences are not so pronounced, however, if we take into consideration general trends in construction rather than absolute values. Both forms of enclosure reveal a tendency to give one end an appearance of grandeur, be it by the use of especially large boulders or by tall timber edifices. Moreover, as will become apparent in the course of subsequent discussion, similarities between the two types of enclosures extend further into funerary and ritual associations and - apart from circumstances of shortage of stone or timber - the choice in construction between a timber and a stone enclosure may have

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\* These estimates offer minimum value since the erosion factor at different sites is not known.

depended upon subtleties of ritual requirements which cannot be deduced from the evidence hitherto available.

### 8.3 ENTRANCES

Closely associated with the construction and subsequent use of the enclosures is the problem of access to the interior. There is evidence suggesting that certain enclosures may have acquired their final shape by a process of sequential construction (see section 8.4) and, in the case of these, access to the whole of the interior may not have been required continuously. But in the majority of examples it seems reasonable to accept that the building of the whole enclosure represents an early stage in the monument's construction and therefore some form of entrance would have been necessary to allow access to the interior.

Difficulties in establishing the location of such entrances are however substantial. In the case of a severely damaged barrow, for example where most of the kerb stones have been removed, it may prove impossible to determine the position of an entrance. This problem becomes further aggravated by the fact that many excavations are incomplete - limited either to the immediate vicinity of the grave or carried out strictly within the confines of the enclosure - thus substantially reducing the chances of finding the entrance. There is an additional problem of distinction between a temporary means of access (for example a gap within a wall which at a certain stage becomes closed off in the same manner as the rest of the enclosure) and a permanent entrance, serviceable for as long as the monument remains in use. As will become apparent in the discussion below, no uniform solution to this problem seems to have been applied.

Direct evidence for entrances to enclosures is available only from a small number of barrows in Kujavia, Western Pomerania and Denmark. Neither the monuments in Mecklenburg nor those in Lower Saxony have been investigated with sufficient attention to these details and so comment on the question of entrances in these structures must be restricted to the evidence from the other three regions.

Among the long barrows in Kujavia formal entrances tend to be

located at the broader end of the enclosure. Such, without doubt, is the case at Wietrzychowice (KUJ-45/3, Fig. 53 and 69). The broad end



Fig. 69 Wietrzychowice (KUJ-45/3) - entrance at the broader end of the barrow

of the enclosure consists of eight large boulders and in its centre there is a 1m gap. During the excavation the ground in front of this gap, as well as within it, was found to have been paved with small field stones (Jadczykowa 1971, 98; Jażdżewski 1936b, 122). No blocking of any kind seems to have been associated with this space, although the use of perishable material such as wood or hide must not be excluded.

Two more barrows at this site - KUJ-45/1 (Fig. 52) and KUJ-45/5 (Fig. 53 and 70) - reveal similar gaps in the middle of the broad end. No features were associated with the entrance of barrow 45/1. The purpose of a semi-circular scatter of stones to the outside is unknown - it may have resulted from attempts to remove the stones or, indeed, may have formed the base of some sort of structure around the entrance;

there is no evidence to confirm either. Scatters of small stones were also noted in front of barrow 45/5. Their interpretation as unused

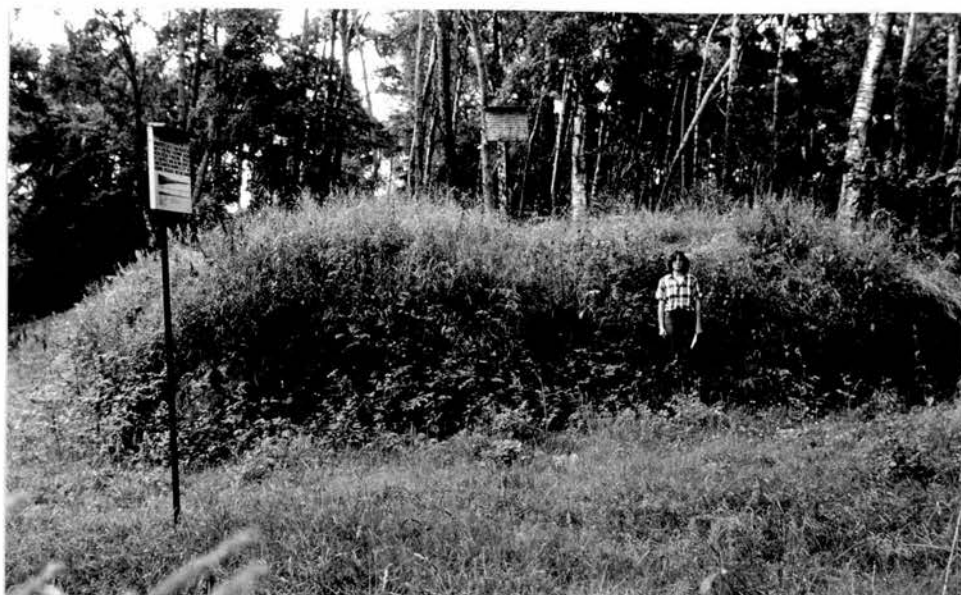


Fig. 70 Wietrzychowice (KUJ-45/5) - entrance at the broader end of the barrow

building material left lying in front of the barrow (Jadczykowa 1970, 134) is not convincing. Their positioning, in three discrete groups aligned in front of the enclosure, suggests that they may have formed a part of some more elaborate entrance arrangement. This seems very plausible, particularly in connection with traces of a wooden structure (not marked in any of the available plans) apparently forming an interior corridor directly opposite the entrance (*Ibid.* 135).

Gaps within the broad end of the enclosure are known from two more sites in Kujavia - Gaj (KUJ-7/1) and Obałki (KUJ-22/2) - but their interpretation as entrances allowing access to the whole of the interior is made difficult by the existence of internal wooden buildings directly opposite these gaps (see section 8.4). In the case of Obałki enclosure the building stands about 5m inwards from the eastern end (Fig. 51). Its preservation did not extend beyond foundations, its

form cannot be established and therefore one cannot say whether it was possible to walk through it or necessary to go round it. At Gaj however the boulder free space seems to be associated directly with the wooden building (Chmielewski 1952, 88; Fig. 54 and 89). It is clear that the northern, southern and western walls were solid and so it is unlikely that entry to the enclosure was possible through it. It is particularly unfortunate that the relative sequence of structures within Gaj and Obalki cannot be determined with any accuracy, except that the graves and the buildings all precede the mound. Should it be accepted that the wooden buildings represent relatively late elements within the interior then the entrances would have provided access to the whole of the enclosure. If, however, the buildings were either contemporary with or earlier than the graves, access would effectively have been cut off.

However, evidence from other sites may offer possible alternatives. One interpretation, clearly supported at Lindebjerg (DNK-8) and to be inferred at Zberzyn (KUJ-47), is that, at some enclosures at least, one end remained open until entry was no longer necessary, and only then was it blocked off permanently - or in some cases temporarily - with large boulders or some other closing device.

Such indeed may have been the case at Zberzyn, where a wooden structure analogous both in construction and location to that at Gaj is known (Gorczyca 1981; see section 8.4). The wooden building has solid walls on the northern, southern and western sides, but there is no evidence to suggest that the eastern end was closed; access to the building was apparently from this side (Fig. 54 and 90). Similarly, as at Gaj and Obalki, it is not possible to suggest a relative sequence of construction of different interior features. The stone enclosure has been robbed of nearly all the boulders and its course could be determined only on the basis of 'filling-in' stones and bands of iron-panning which had formed underneath the boulders (*Ibid.*, 2). This phenomenon could be observed all along the broad end of the barrow and it is therefore reasonable to assume that the stone kerb formed the whole of the eastern end. Thus it seems that the interior of the enclosure, and indeed that of the wooden building, would have been accessible only from the east prior to the construction of the eastern

wall and that the boulders were placed just before or during the construction of the mound, *i.e.* when access was no longer needed. This argument is further supported by the fact that the direction of the eastern enclosure wall is not perpendicular to the main axis of the enclosure but follows that of the eastern wall of the building (Fig. 54).

A similar feature has been recorded at other sites. At Gaj (KUJ-7/1, Fig. 54) the broad end follows the line of the eastern wall of the interior building. Sarnowo (KUJ-32/6, Fig. 48) provides more evidence of such a construction. The eastern end runs at an angle of 75° to the main axis of the enclosure, resulting in the southern wall being shorter than the northern wall by about 2m (Chmielewski 1952, 72). Chmielewski attributed this alignment to the shortage of building material, but it is equally possible that the direction of the eastern end was dictated by the position of an internal structure which either did not survive, was unobserved during the excavation, or had been entirely dismantled before the construction of the eastern end (*cf.* evidence from Sarnowo, KUJ-32/9, of dismantling of structures prior to the construction of the mound; section 8.4).

It is important to note in this context that at Łupawa (WPOM-25; Fig. 61) a number of barrows showed a construction of the broader end which differed from the rest of the enclosure. Jankowska mentions that the broad end was often less carefully built, with large boulders not fitting accurately and frequently resulting in a convex rather than a straight end (Jankowska 1980, 99; 1981, 132). For this site the explanation of this feature centres upon difficulties in construction with the use of large stones, but it may also be interpreted as resulting from a late erection of the eastern wall, with little room to manoeuvre the stones into place. One may also take into account the possibility of an interior arrangement of structures which have decayed beyond recognition, or which again were deliberately removed.

Apart from the monuments mentioned above, for which the final process of closing off the enclosures may reasonably be inferred from the evidence preserved at these sites, a number of barrows may be noted where one end of the enclosure appears to be open. At Stralendorf



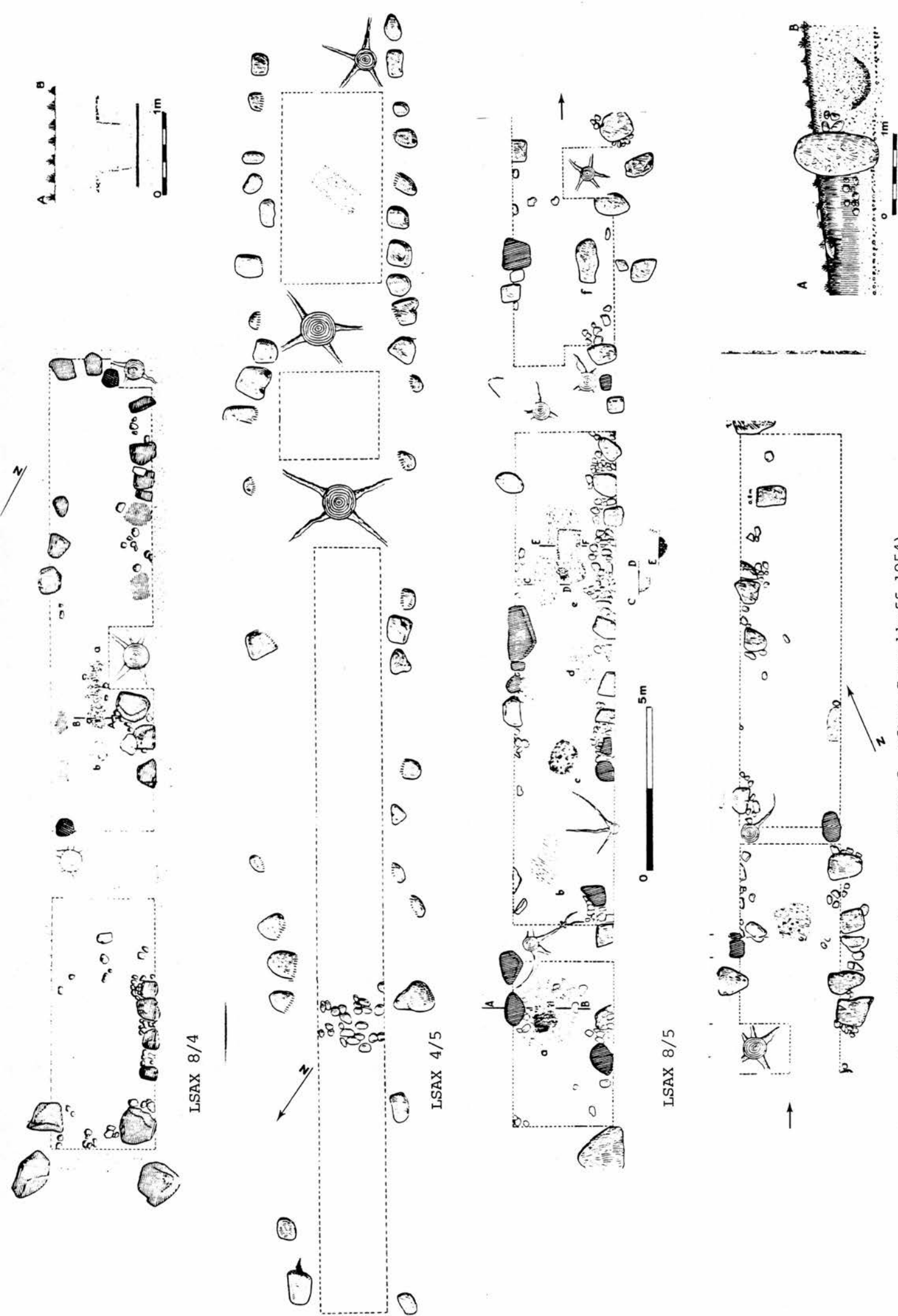


Fig. 71 Sachsenwald long barrows (LSAX-8, after Sprockhoff 1954)



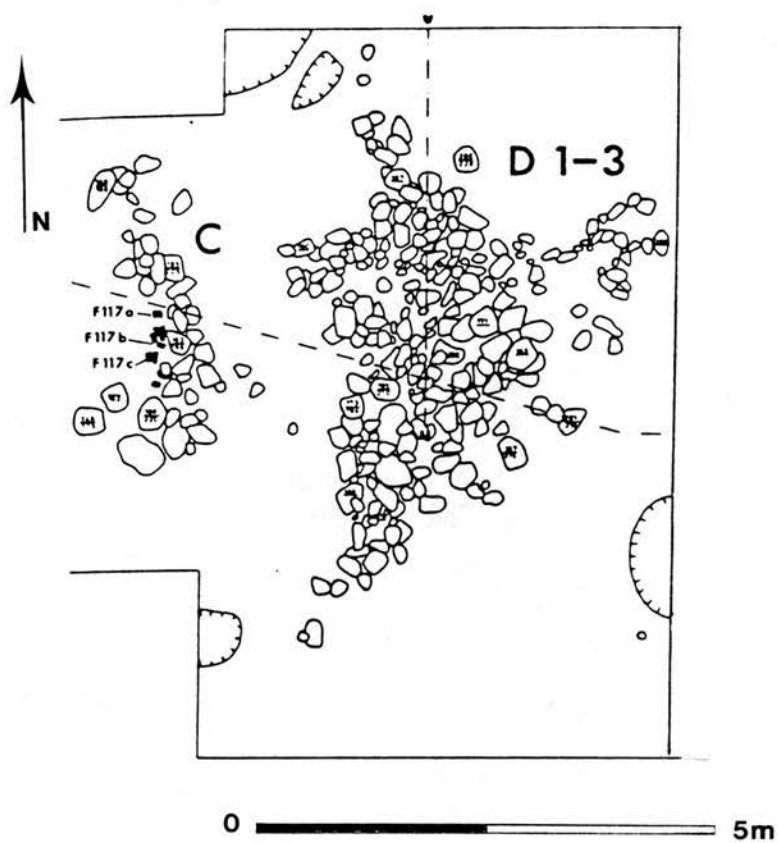


Fig. 72 Location of features C and D in relation to one another (Lindebjerg barrow, DNK-8, after Liversage 1980)

(MBG-25, Schuldt 1965; Fig. 57) the southern end of the barrow does not seem to have been edged with boulders although the kerb was otherwise well preserved. Several long barrows in the Sachsenwald (LSAX-8; Fig. 71) also show no evidence of a kerb at either one or both of the narrow ends. Whether these enclosures were deliberately left open or whether the kerbs have been robbed of stones is difficult to determine today, especially since the monuments concerned were not investigated in sufficient detail.

Thus it is particularly informative to examine in this context the evidence from a totally excavated monument at Lindebjerg (DNK-8, Liversage 1980; Fig. 62), which reveals the complexity of entrance arrangements and the difficulties inherent in their interpretation as well as affording suggestions for a possible solution at sites where the preservation or the quality of excavation do not allow independent assessment. The stone enclosure, which was described in detail earlier (see section 8.2), was not blocked with a stone kerb at the eastern end. In spite of some doubt as to the form and construction of its western counterpart, it is reasonable to assume that access to the interior was gained from this side.

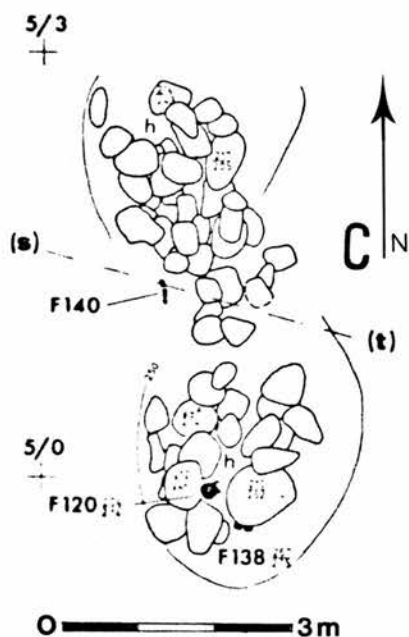


Fig. 73 Lindebjerg (DNK-8) - feature C (after Liversage 1980)

During the excavation two separate structures, feature C (Fig. 73) and D (Fig. 74), were encountered at this end, each seemingly corresponding to a different episode in the use of the monument. The stratigraphic sequence uncovered here showed clearly that structure C was the earlier of the two and may be considered archaeologically contemporary with the first grave (feature A), although the absolute relationship between them cannot be established more precisely (Liversage 1980, 98).

This structure is represented by a 4m long, 1,3m wide and 0,9m deep transverse trench, located at or near the eastern end of the enclosure. Originally this trench held two substantial, vertically placed timbers, one at the northern and one at the southern end, wedged heavily with stone packing (Fig. 73). Low down in the trench, halfway between the posts, the charred remains of a vertically positioned oak plank were also found (*Ibid.* 97).

Interpretation of this feature as well as its function is difficult. To regard it as the remains of a burnt timber façade (Madsen 1979, 308) does not appear satisfactory. First of all there is no evidence pointing to the whole structure having been burnt. Indeed, Liversage suggests that the two wooden posts either rotted *in situ* or, more probably, were simply cut off when the structure became obsolete. The wooden plank was probably burnt later, perhaps accidentally. Secondly, the original external appearance of this structure is difficult to determine although it is fairly certain that it was free-standing. It is possible that some sort of screen was erected (of wooden planks?) between the posts, effectively cutting off the interior of the enclosure from the outside. It seems less likely, however, that this structure represents some sort of formalised entrance. Its temporary character is clearly shown by its having been dismantled prior to the construction of the second grave (Liversage 1980, 96) and offers important evidence for frequent changes of the interior arrangements, which suggests a multiplicity of activities taking place within the confines of the enclosures.

Incidentally, it is interesting to compare the remains of this structure with that at the open end of the Stralendorf long barrow

(MBG-25; Fig. 57). Although no mention of the linear stone arrangement within the eastern end at Stralendorf can be found in the original report (Schuldt 1965) it appears in the plan and bears resemblance to the ground-plan of feature C at Lindebjerg (Fig. 73). The situation at Stralendorf seems to be analogous to that at Lindebjerg (no stone kerb) and this scatter of small stones may well represent a closing-off structure not unlike the one discussed above.

The second structure at the eastern end of Lindebjerg (feature D, Fig. 74) is even more difficult to interpret. It consists of two

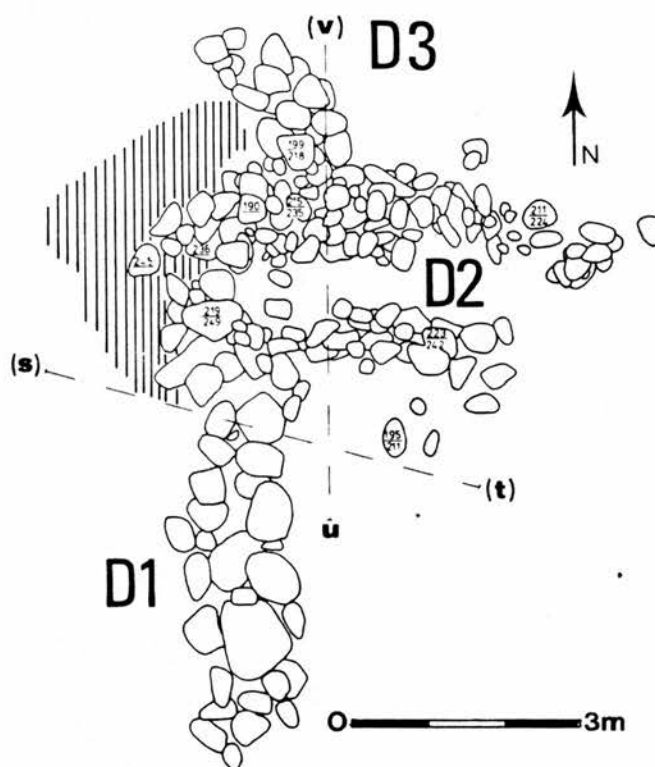


Fig. 74 Lindebjerg (DNK-8) - feature D (after Liversage 1980)

ditches, not quite in line, filled with stones but with no traces of either wooden posts or planks (Liversage 1980, 98-100). Attached to and forming a part of this structure is a small U-shaped chamber whose purpose remains unknown. The excavator suggested it may have served as a possible foundation for turves stacked against the eastern end of an earthen mound, but in view of its apparent uniqueness it is

not possible, for the time being, to offer an alternative suggestion.

Evidence from several monuments implies that entry to the interior may also have been through one of the long sides of the enclosure and the fact that such entrances are found throughout the earthen long barrow province may indicate that they represent an alternative, or indeed additional, means of access. At Rybno (KUJ-29) there is no evidence of any substantial opening at the broader end, but along the southern wall a section of the kerb is constructed differently from the rest - not of the customary large boulders but of small stones which make up a wall of several courses (Jażdżewski 1936a, 190). It may well be that a temporary entrance was located at this point and eventually blocked off with stones.

An identical feature has been found at Gaj (KUJ-7/1, Chmielewski 1952, 88; Fig. 54). Here, in addition to the entrance at the eastern end (see above), a section of the southern wall, between 8 and 15m from the eastern end, was constructed in a similar fashion - from small stones. Chmielewski thought that at this point the mound must have reached its maximum height and interpreted this wall as additional support for the boulders of the kerb. However, the fact that this section of the wall is exactly opposite the central grave (chapter 9) suggests that this arrangement was deliberate. Moreover, it could also indicate that it was not possible to reach this part of the enclosure from the east and therefore that the building at the eastern end of the barrow may already have been in place.

The possibility of side entrances also presents itself in connection with some barrows in Western Pomerania. It is not certain whether at Krępczewo (WPOM-20, Wiślański 1977; Fig. 60) there was an entrance at the broad end. After reconstruction, when the boulders were replaced in their original positions, a gap about 1m wide appeared in the middle of the eastern end. But the excavator mentioned that a boulder suitable for this space was present a few paces away (*Ibid.*, 87). There is also a definite gap in the southern wall of the enclosure at about 15m from the eastern end. Its position is of interest on two accounts. Firstly, it occurs at the point where the interior stone fill is divided into two separate cairns. Secondly,

there is a scatter of stones at either end of this gap, immediately to the outside of the kerb. An inspection of the photographs of this section (Fig. 56) reveals that the stones are at the bottom level of the kerb and therefore should not be regarded as stones which have fallen from the outer wall. Since no sections through these stone features are available their function cannot be assessed, although in plan the eastern concentration does look very much like stone packing. There is another concentration of stones to the outside of the kerb, at the western point of termination of the inner stone fill (Fig. 60). These arrangements of stones and their location may of course be accidental, perhaps representing unused cairn material. On the other hand the position of the gap within the southern wall and, indeed, the fact that this is the only gap for 35m of this wall - together with the two outside stone scatters - may suggest that some sort of entrance arrangement existed at this point.

A similar gap, this time without external stone scatter, may be observed at Karsko (WPOM-15/1; Fig. 78). Here the break in the southern wall of the enclosure (25m from the eastern end) is emphasized by a corresponding gap in the inner wall and very probably represents an entry point from the outside to compartment no. 3 (see discussion in section 8.4). This outside access does not preclude a connection between segments 2 and 3 by an internal corridor, as suggested below. Entrance to compartment no. 1 (and at the early stage possibly to the whole of the enclosure) is at the eastern end, slightly north of the main axis. The gap between the large boulders has been paved with small stones (Wiślański *pers. comm.*) and the arrangement of stones within the first compartment, directly opposite the entrance, suggests that some construction of stone, or timber and stone, may originally have existed here.

Among the Danish earthen long barrows evidence of entrances from the side is hitherto known from two locations. At Barkaer (DNK-2; Fig. 88) Glob noted the existence of quern-stones at various points within the long walls of the structures and interpreted these as thresholds (Glob 1949,6; see also discussion in section 8.4). Unfortunately a conclusive interpretation is not possible at this

stage although entrances to individual segments from outside should not be excluded.

Both of the Stengade enclosures (DNK-18/1 and 2; Fig. 67) seem also to have been entered from the long sides rather than from either of the ends. One definite entrance was noted along the northern side of Stengade 18/1. It was 1m wide and at a distance of 5m from the eastern end (Skaarup 1975, 17). Additional heavy stone foundations surrounded the entrance to the north and west, delimiting an area of 2 x 2,5m. This could represent the remains either of an open-plan porch or even of a small fore-building through which access to the interior was gained. Since the western half of this enclosure was poorly preserved it is not possible to determine whether additional entry could be gained from anywhere else, but the bi-partite nature of the interior suggests that another entrance was likely.

Three gaps within the southern wall of the other enclosure from Stengade (18/2) were noted; one (1,3m wide) was located 4m from the eastern end, another 2,5m further west and a third about 8,5m from the western end (*Ibid.*, 94). No exterior features were noted in connection with any of these gaps within the foundation wall, and the poor preservation of the southern wall makes entrance arrangements here impossible to determine.

In the discussion of access to the interior of enclosures, consideration must also be given to other Danish long barrows where timber façades and related structures have recently come to light. In his survey of Danish long barrows Madsen distinguished a number of monuments for which he claims the existence of solid timber façades terminating the mound usually, but not invariably, at the eastern end (Madsen 1979, 311). This interpretation, which rests predominantly upon the evidence of a transverse trench, is no doubt strongly influenced by the fact that such timber structures have for a long time been associated with similar monuments in Britain (Ashbee 1970). As already noted (section 8.2) the Danish evidence comes in most cases from recently excavated monuments, known mainly from interim reports, and therefore many details are still insufficiently known. Furthermore, as completed reports on Lindebjerg (DNK-8, Liversage 1980) and



Stengade (DNK-18, Skaarup 1975) have shown (see above), features such as stone-filled trenches need not always represent the remains of solid timber façades. There are, however, some barrows for which the available evidence does suggest the existence of a timber facade and it is these that we shall study in more detail.

Definite traces of solid timber façades can so far be associated with two sites - Rustrup (DNK-14, Fisher 1976) and Rude (DNK-13, Madsen 1980). Rustrup, which remains a rather ill-understood monument, reveals traces of a timber façade beneath the eastern end of a later stone covering (Fisher 1976, 66; Fig. 75). A concave trench,

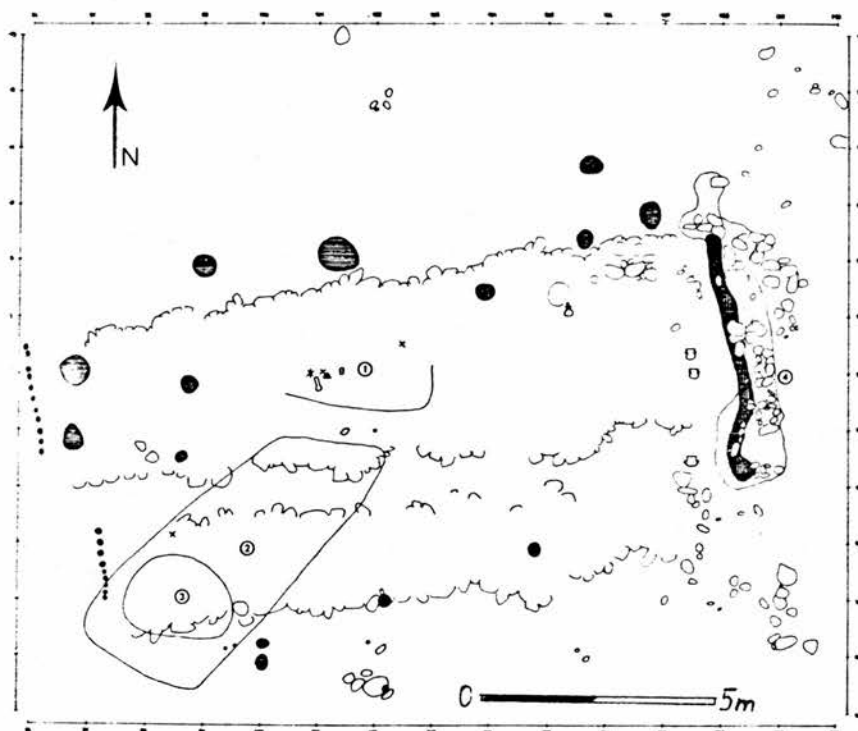


Fig. 75 Rustrup (DNK-14) showing façade bedding trench at the eastern end

4,9m long, between 1,05 and 0,8m wide and varying in depth from 1,08 to 1,2m, contained clear traces of charred posts. These posts, about 20 cm in diameter, were closely spaced within the trench and packed with small stones. Other less well defined post holes (also with a quantity of charcoal) were found to the west of the facade in the

area covered by the stone mantle (*Ibid.*,66). Whether these formed, together with the façade, a part of one larger structure could not be determined as, indeed, the whole sequence of events prior to the construction of the stone covering is uncertain (*Ibid.*,67, see also comments in section 8.2).

The other example of a substantial timber façade is that from the Rude long barrow (DNK-13, Madsen 1980; Fig. 76). At this site

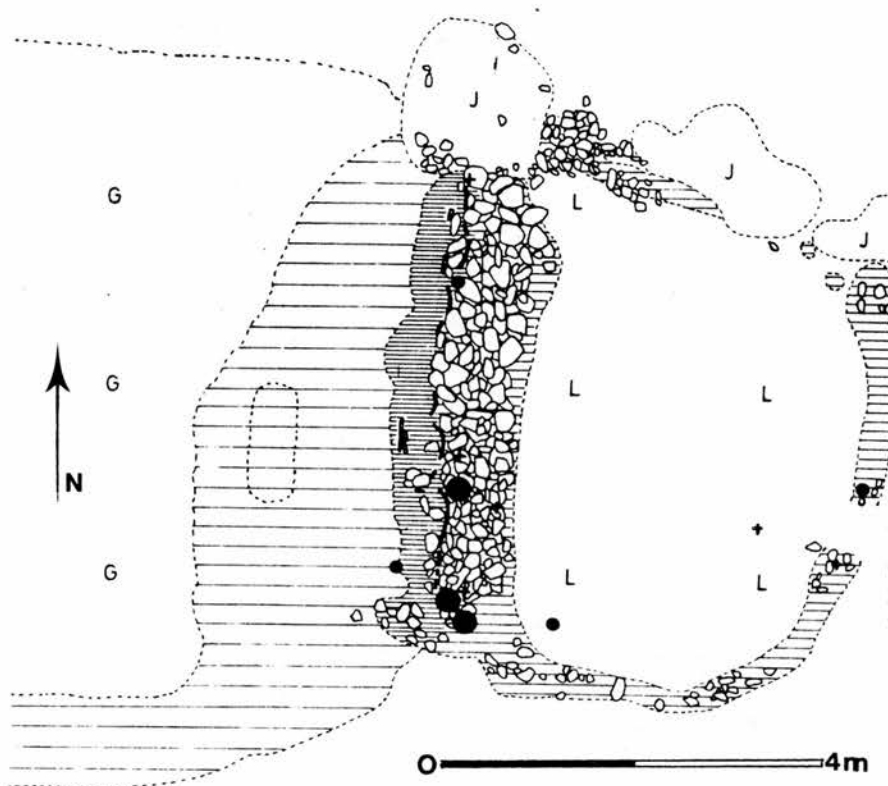


Fig. 76 Rude (DNK-13) showing façade and a small enclosure at the eastern end of the barrow (charcoal stains marked in black; after Madsen 1980)

there is evidence of at least two phases of construction at the eastern end, and the burnt facade represents the later phase (*Ibid.*,89). The earlier structure is recognised in the remains of a small, sub-rectangular enclosure 3,7 x 4,4-5,8m in size, set at a slight angle to the main axis of the barrow (Fig. 76). It was constructed on a frame

of small posts which were placed 0,1 to 0,2m apart, at the edge of a large pit which constituted the interior of the enclosure. Its temporary character is witnessed both by the slight construction (wattling) and again by the fact that it was dismantled (or had decayed) prior to the building of the façade. The precise relationship between this structure and the barrow enclosure proper cannot be established with certainty, although the yellow-brown mottled fill of the small enclosure (*Ibid.*, Fig. 5 - layer 3) can also be seen in the southern section of the interior of the barrow enclosure as far as the cist. This would suggest the contemporaneity of the two structures as they were obviously being filled with the same material.

The façade, for which the trench cut through the yellow-brown fill, must have been quite a substantial structure - seven split trunks of 0,7 - 0,8m in diameter were set one next to the other in a 5m long trench, heavily packed with stones in its eastern section (*Ibid.*, 88; Fig. 76). The stratigraphy within the foundation trench seems to indicate that this trench was dug into an earlier one (replacement or dismantling?) which had previously been filled with the same mottled fill as the small enclosure (*Ibid.*, Fig. 10). Madsen's interpretation of these features involves an early phase - consisting of the small enclosure and an earlier façade - and a later façade (which had been burnt) placed in exactly the same spot as the earlier one (*Ibid.*, 89). That the second façade was not contemporary with the small enclosure is evident from the fact that the latter showed no evidence of burning. The relationship with the hypothetical first façade is however much more difficult to envisage. At the bottom of the foundation trench, in the layers preceding the burnt façade, there is also evidence of burning, and one may reasonably expect that this first structure was also affected by fire - although perhaps not as severe as in the second structure. Again no evidence is associated with the contemporary small enclosure. On the other hand it is possible that the older layers represent not an early façade but some sort of structure similar to that known at Lindebjerg (DNK-8, see above). There, traces of burning were limited and did not extend beyond the middle of the trench. It may well be that the limited nature of the burning evidenced

in both structures (Rude phase I and Lindebjerg feature C) was related to the form of the structure rather than to a lack of intensity of the fire. The evidence for this early episode at Rude is really not sufficient to allow better interpretation. It must however be borne in mind that trenches as such need not invariably suggest a façade, and so the question of the early structure at Rude should be left open rather than influenced by the existence of a subsequent structure (*i.e.* the burnt façade of phase II).

Evidence for solid timber façades of the kind encountered at Rustrup (DNK-14) and Rude (DNK-13), referred to by Madsen on other sites, is less conclusive. At Østergård (DNK-12; Fig. 87) and Bygholm Nørremark (DNK-4; Fig. 66) traces of individual, separate posts have been found. At the latter site there was an even more complex arrangement, including other posts, which was interpreted by the excavator as the remains of a small building (Rønne 1979). Although the remains of timber posts are also known from terminal ditches at the Barkaer structures (DNK-2, Glob 1975) their precise arrangement will not be known until the publication of the excavation report. In other cases, at Sjørup Plantage (DNK-16, Jørgensen 1977) and Tegleværkasgården (DNK-20, Faber 1976; Fig. 66), the existence of the timber façade was inferred from the transverse stone-packed trenches noted at the eastern end of these two barrows (see above).

Although it is very tempting to regard these features as the remains of timber façades, such interpretations should not be made prematurely. The purpose of this argument is not to question the existence of the façades in principle - for where evidence is convincing these may be accepted - but to stress once again that all the details must be considered in any interpretation. Evidence from Lindebjerg (DNK-8, Liversage 1980) clearly serves as a warning against hasty conclusions. Neither of the two eastern structures could be said to represent a timber façade proper, yet feature C has been interpreted as such (Madsen 1979, 308) prior to the final publication. It is very important to acknowledge the individuality of features under discussion and to recognise that they are likely to represent a variety of structures, presumably related in function but different in form.

#### 8.4 INTERIOR STRUCTURES

Until comparatively recently it has been possible to do no more than point to general resemblances among the interior structures, such as simple inhumation graves or traces of buildings, found in the North European long barrows (Jażdżewski 1970a). However, the results of recent excavations of long barrows in Western Pomerania and Denmark not only affect our approach to the study of the monuments, but make it clear that their interior arrangements are more complex than has been hitherto understood. Moreover they give credence to old excavation reports and allow us to re-interpret in a new light the observations made by excavators of the 19th and early 20th centuries.

Two particular features - the segmentation of the interior and the combined use of stone and timber in the building of graves and other structures - have emerged as important and widespread elements. The division of the interior into separate compartments is not an entirely new phenomenon since evidence of transverse stone rows featured regularly in the 19th-century reports on the Mecklenburg earthen long barrows (Ritter 1841b, 1842; Lisch 1848; Beltz 1899, 1910). But these have been largely ignored by later scholars and it is only through recent discoveries of comparable material - in stone and/or timber - that this feature may now be re-examined. Similarly, occasional finds of charred wood have for long indicated that timber was used for interior structures. Wherever recovered, such traces have generally been associated with the remains of burnt buildings or otherwise interpreted as evidence for ritual fires and feasts (Chmielewski 1952; Jażdżewski 1936a, 1936b, 1970a). Today, however, there is both direct and indirect evidence for the regular use of timber, either on its own or in combination with stone elements. The results of Danish excavations in particular enable us to postulate the use of timber elements (logs or planks) even where no wooden traces actually survive.

##### 8.4/1 INTERNAL PARTITIONS

As noted above, the earliest evidence of internal divisions within earthen long barrows is found in the 19th-century reports of

Ritter, Lisch and Beltz. Although insufficient in detail, these observations are entirely consistent with, and fully borne out by, the results of modern excavations in Western Pomerania.

Transverse stone walls have been noted at Brüsewitz (MBG-5, Lisch 1839, 22), Karft (MBG-15, Ritter 1842, 18), Perdöhl (MBG-18/2, Ritter 1841b, 30-31), Pöglitz (MBG-19, Sprockhoff 1967, 76) and Zarnewanz (MBG-29, Beltz 1899, 115-116). They vary in number from one (Karft) to three or possibly more (Pöglitz and Zarnewanz) and were generally built of large stones, similar to those forming the outside walls of the enclosure (Karft, Perdöhl and Pöglitz). Occasionally, as at Zarnewanz, smaller stones (up to 0,2m in diameter) were also used. The height of these walls is not recorded, but various comments as to their appearance just below the mound surface suggest that they were probably not much lower than the outer walls themselves.

The enclosure at Perdöhl (MBG-18/2) contained two transverse walls dividing the interior into three compartments about 4m, 17m and 8m in length (Ritter 1841b, 30-31). The first dividing wall (4m from the eastern end) was entirely within the bounds of the surrounding kerb but the second one apparently protruded 3m to the north and south. The long barrow at Pöglitz was divided by at least three inner walls (a substantial part of this barrow was already seriously damaged in the mid-19th century), which formed compartments 7,5m, 6,6m and 2,2m long respectively (Sprockhoff 1967, 76). The eastern end was terminated by a double kerb, and traces of a double course were noted along some stretches of the side walls.

In many instances the second compartment differed both in construction and in content from the rest of the barrow. At Perdöhl it was completely filled with medium-sized stones. At Pöglitz and Zarnewanz small rectangular stone-built enclosures were found. At Karft a skeleton, laid directly on the old land surface, was found beyond the single dividing wall.

The most convincing parallels for such interior arrangements, virtually identical to those just described, come from the recently excavated barrows of Karsko (WPOM-15) and Dolice (WPOM-10; Wiślański



*pers. comm.*). This is not entirely surprising given the relative proximity of the Mecklenburg and Western Pomeranian groups, and also suggests that the apparent lack of these features may sometimes be attributed to poor excavations.

At Karsko (WPOM-15) two earthen long barrows have recently been excavated. They were originally thought to have shared one of the long walls (Chmielewski 1952, 42) but were proved to be separate monuments, running parallel about 5m apart (Wiślański *pers. comm.*).



Fig. 77 Karsko (WPOM-15) - illustrating the location of two barrows running parallel to one another (photo Wiślański)

The northern barrow (15/2) was rather badly damaged in its eastern half, which makes the interpretation of interior structures difficult. Immediately to the west of the eastern end there are remains of a stone cairn about 5m in length and heaped in a dome-like fashion (Fig. 78). Stretches of what are undoubtedly the remains of a rather



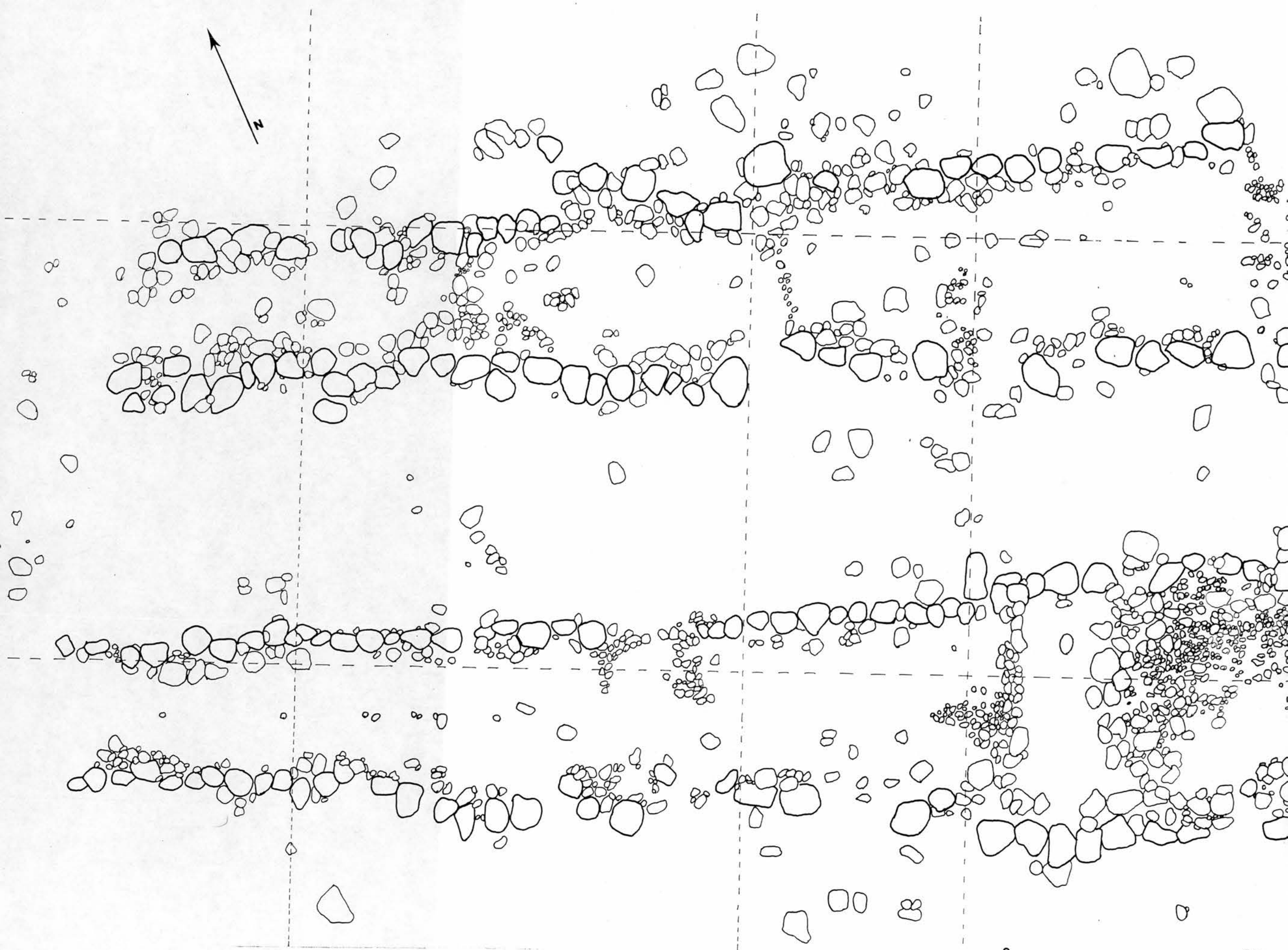
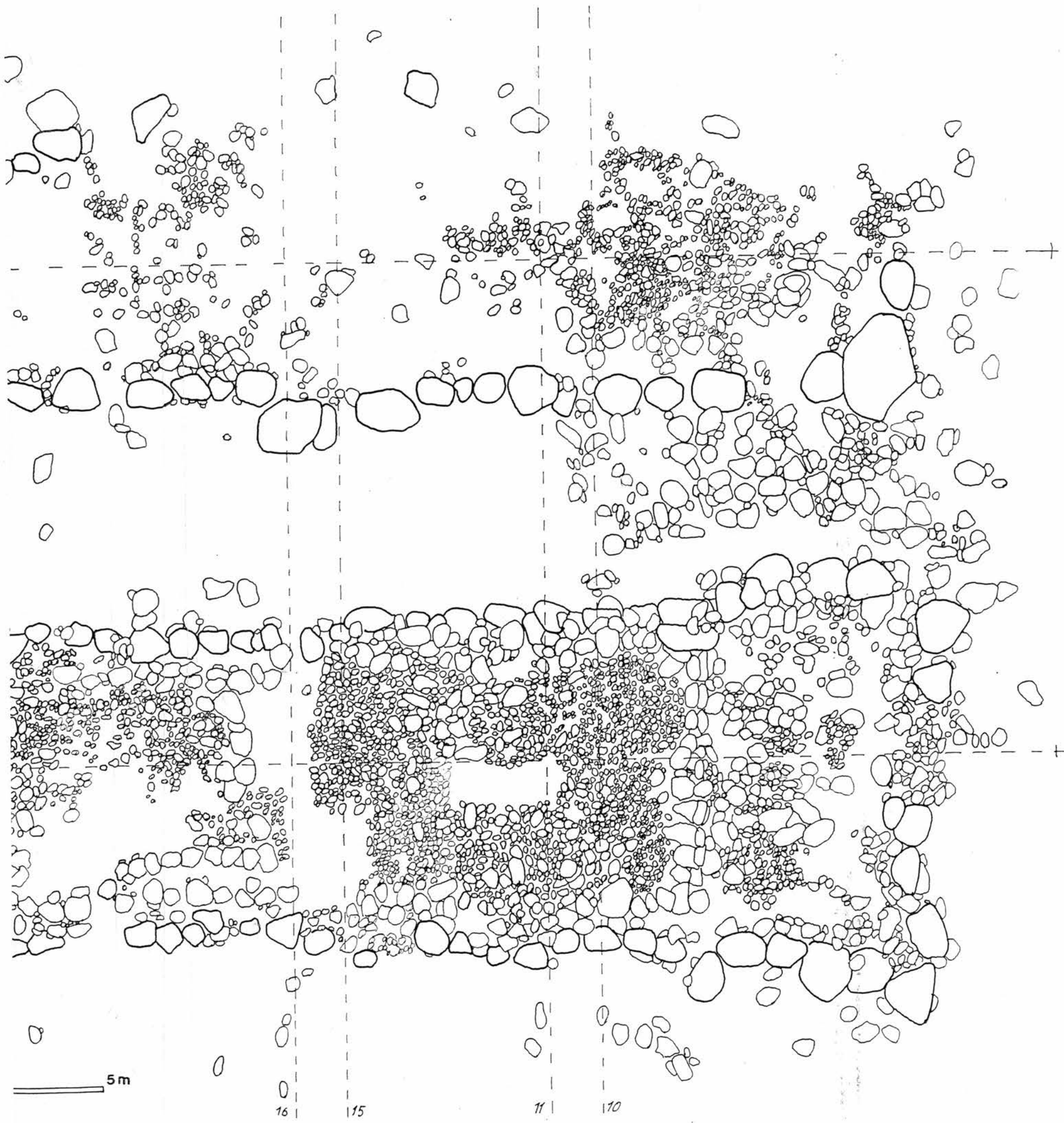


Fig. 78 Plan of Karsko barrows (WPOM-15, after Wiślański - unpublished)



low, two-course internal walling inside the main enclosure may be observed along the southern and south-western part of the stone cairn. Unfortunately, fragmentary preservation allows neither its shape nor its size to be determined. Whether or not internal partition walls were built within this barrow can no longer be ascertained. At various points along the enclosure stretches of stone constructions may be noted but they are neither clear nor sufficiently substantial to be interpreted as such.

The southern barrow at Karsko (15/1) is by far the better preserved of the two and its interior structures bear a resemblance to those known from Mecklenburg. The eastern half of the barrow is divided into several compartments, this division being highlighted by internal side walls parallel to the outside kerb (Fig. 78). The first compartment, immediately beyond the eastern end, is about 4m long and terminates in the west with a transverse two-course wall of medium-sized stones. Beyond this wall (*i.e.* in the second compartment) a dome-shaped cairn of field stones was set up, beneath which a small, stone-built rectangular enclosure could be distinguished by virtue of the larger size of stones (Wiślański *pers. comm.*). The stone cairn and the small enclosure, as indeed their location in the second compartment, correspond closely to features noted at Perdöhl (MGB-18/2), Pöglitz (MBG-19) and Zarnewanz (MBG-29).

The second and third transverse rows form a part of yet another separate compartment, clearly distinguished from the outside walls by additional interior walling along the northern and southern sides. These two transverse rows are more substantial than the first, being built of flattish stones equalling in size those of the outer kerb (Fig. 79). At the south-eastern corner of this section there is an additional, linear arrangement of stones (Fig. 78). An interpretation suggested by the excavator is that of a U-shaped structure closed off at its western end (Wiślański *pers. comm.*). However after close examination of the original plan and of numerous photographs of this feature it is more reasonable to suggest that the structure represents the remains of a passage or a corridor between the second and third compartments. Figures 80 and 81 show clearly that the stones at the



Fig. 79 Karsko (WPOM-15/1) - second transverse stone wall,  
built of large boulders (photo Wiślański)

western end are in a secondary position - moved by the pressure of the mound or by some other disturbance. The fourth and final transverse wall (Fig. 78), again of less impressive size than the second and third, may be noted about two metres beyond. The size and location of this compartment corresponds to that at Pöglitz (MBG-19).

One further monument, the most recently excavated barrow at Dolice (WPOM-10, Wiślański *pers. comm.*) shows evidence of internal partitioning. Only one transverse wall, built of large boulders, has been noted, about 7m from the eastern end (Fig. 82). As at Karsko, the remains of a stone cairn have been found to the west of the partition.

In the context of internal partitions found within the West Pomeranian long barrows another interesting feature - the abrupt termination of the inner stone cairns - may also be discussed here. This phenomenon is particularly striking at Krępczewo (WPOM-20, Wiślański 1977) where internal stone walls have not been recorded,





Fig. 80 Karsko (WPOM-15) - a close-up of a linear feature at the W end of second compartment (photo Wiślański)



Fig. 81 Karsko (WPOM-15) - another view of a linear feature shown in Fig. 80 (photo Wiślański)

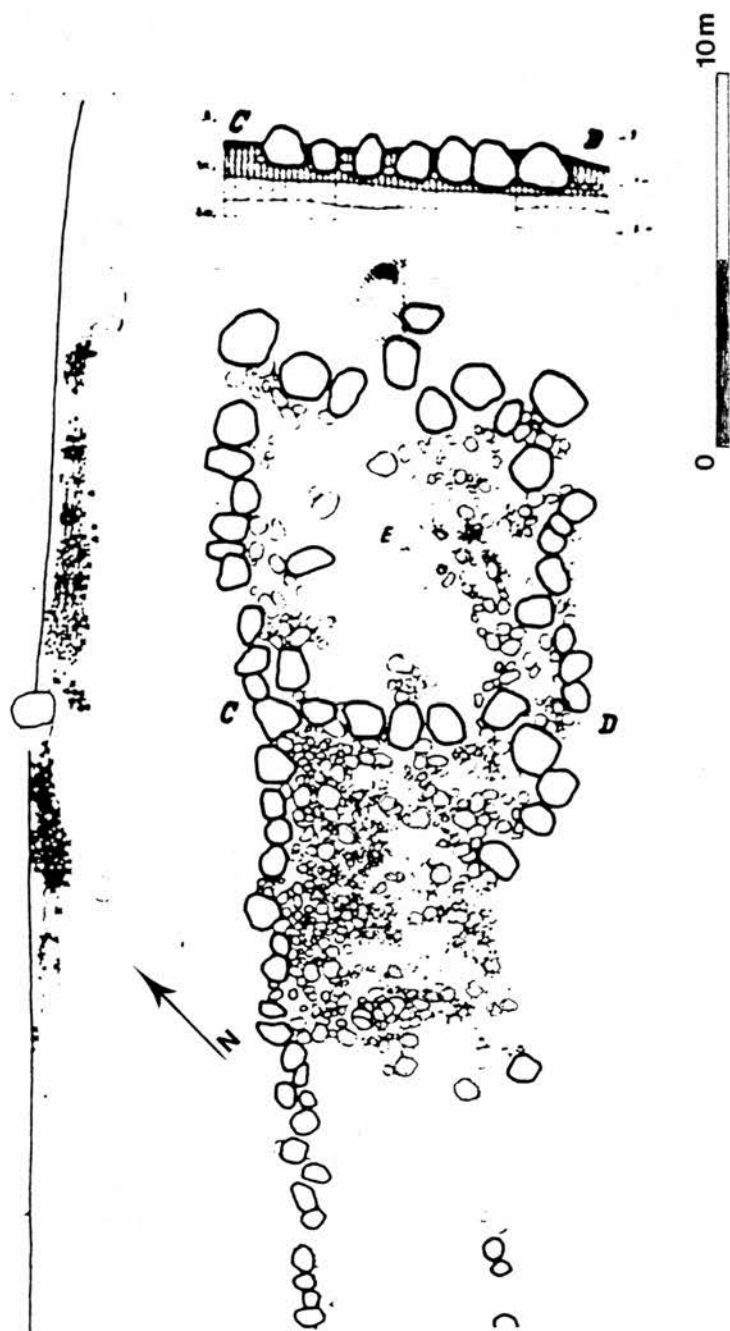


Fig. 82 Eastern end of the Dolice barrow (WPOM-10), showing a transverse stone wall (after Wiślański - unpublished)

but it may also be observed at Karsko (WPOM-15) and Dolice (WPOM-10, Wiślański *pers. comm.*).

In the eastern half of the Krępcowo long barrow two stone cairns have been found (Wiślański 1977, 89; Fig. 60). Particularly clear is the abrupt termination of the second, western cairn, which forms, at about 24m from the eastern end, a virtually straight line across the whole width of the barrow. Although the axial section of the barrow (Fig. 60, X-Y) shows only the basal layer of the cairn material, the transverse section (G-H) makes it clear that originally the cairn was more substantial. Termination of the first, eastern cairn is even more puzzling. The axial cross-section (X-Y) shows that the stones come to an end vertically, from the bottom to the top layers alike. According to the excavation report there was a distinct gap between the two cairns and a shallow depression in the earthen mound corresponded with this gap (*Ibid.*, 89).

An equally abrupt, straight-line termination may be noted at Karsko (WPOM-15/1, Fig. 78) where the cairn material is seen to stop short of the second transverse wall. Although at this point the depth of the cairn is not substantial, mainly as a result of the 1933 excavation by Sprockhoff, the basal layer of stones still does not reach the partition but forms a straight line 1,5m to the east of it.

At Dolice (WPOM-10, Wiślański *pers. comm.*; Fig. 82) a stone cairn fills the area to the south-west of the transverse boulder wall. It is just over 6m in length and, again, ends with a straight line of stones. Moreover, the north-western wall of the enclosure deviates precisely at this point, turning more to the south-west. Although the corresponding stretch of wall on the other side of the enclosure is completely destroyed, the evidence is sufficient to suggest that there was in fact a second compartment within the interior, marked in this case not with a transverse stone wall but with a partition constructed of perishable material.

The phenomenon of almost ruler-straight edges is not an isolated feature in the context of earthen long barrows. It may regularly be observed in association with grave structures (see chapter 9), where it is usually interpreted as an indicator of decayed timber elements,



and it is also present at Stengade (DNK-18, see section 8.3). It seems reasonable to suggest that, in the examples described above, the abrupt termination of the inner cairn reflects the use of additional revetment in the form of either turf walls or timber edging. Moreover, in view of the evidence at Karsko (WPOM-15/1), it seems likely that the purpose of such a revetment would have been structural - and that this revetment served as a lateral and vertical guideline for the construction of the inner cairns.

In the context of confirmation of the 19th-century observations by modern excavations it is necessary to look at other monuments, in these areas and elsewhere, where this feature has not been recognised hitherto but where a similar interpretation could be offered of

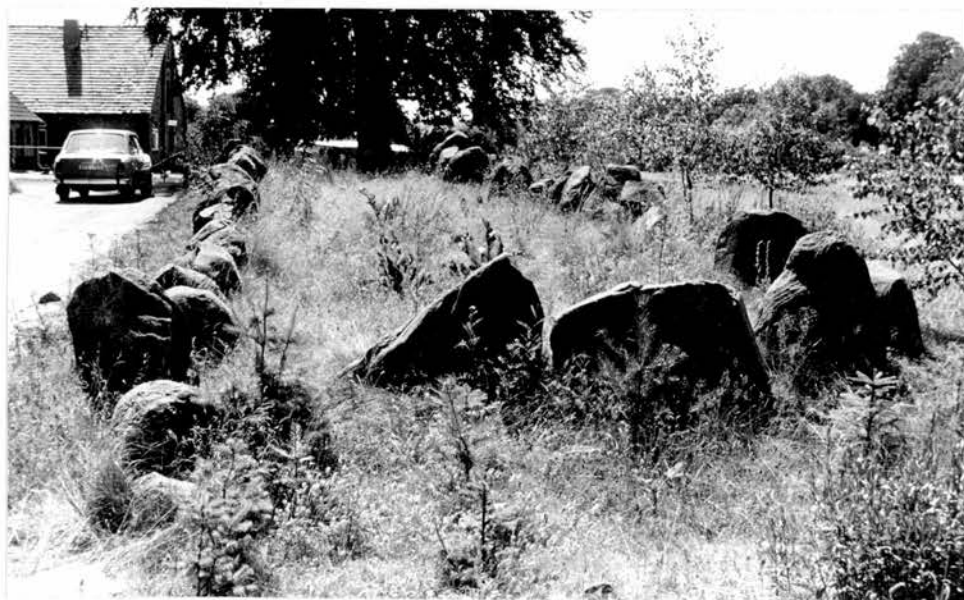


Fig. 83 Stralendorf (MBG-25) - transverse stone wall (modern?)  
across the earthen long barrow enclosure

arrangements evidenced in the interior. Apart from the sites mentioned above, direct evidence of transverse partitions can only be quoted for one long barrow from the Łupawa complex (WPOM-25; Fig. 61)

although it was not mentioned in any of the reports (Jankowska 1975, 1980, 1981; Jankowska and Koško 1973; Koško 1972). Modern excavations of long barrows in Mecklenburg, at Gnewitz (MBG-8, Schuldt 1966c), Rothenmoor (MBG-22, Schuldt 1967) and Stralendorf (MBG-25, Schuldt 1965) have not revealed any evidence of internal divisions. At Stralendorf a row of large stones across the barrow has been encountered (Fig. 83), but these apparently rested on top of the mound and beneath them a humous substratum suggests that their placement was relatively recent (Schuldt 1965, 11).

The only other source of information for Western Pomerania is the 1825 survey of the Pyrzyce district conducted by von Plön (Holsten and Zahnow 1920) whose accounts may also be found in the subsequent publications by Dorka (1939) and Siuchniński (1969, 1972). Figure 25 shows some of the distribution maps prepared by von Plön, and although it is impossible to assess the amount of detail, some barrows in the vicinity of Letnin (Lettnin) and Mysłiborki (Mützelburg) are drawn showing stones traversing the mounds. Today, unfortunately, it is no longer possible to determine whether these should be interpreted as evidence of internal partitioning or merely as indications of damaged kerbs and dragged stones.

Transverse stone rows, or indeed any other form of partitioning, have never yet been mentioned in connection with the earthen long barrows in Kujavia. There are, however, some monuments containing features which, in the light of the above, could plausibly be interpreted as evidence of segmentation of the interior.

The long barrows from Iłowo (KUJ-8) and Świerczynek (KUJ-40; Kozłowski, 1921) are a good case in point. Kozłowski, while paying attention to some of the stone arrangements discovered in the excavation such as graves and longitudinally placed stone-alleys, ignored others, considering them entirely accidental. At Świerczynek (KUJ-40/2; Fig. 84) a linear arrangement of medium-sized stones can be seen traversing the north-eastern half of the enclosure at about 10m from the eastern end, and the double kerb recalls similar arrangements from Mecklenburg and Western Pomerania (see above).

At Iłowo (KUJ-8; Fig. 85), at a distance of about 3m from the

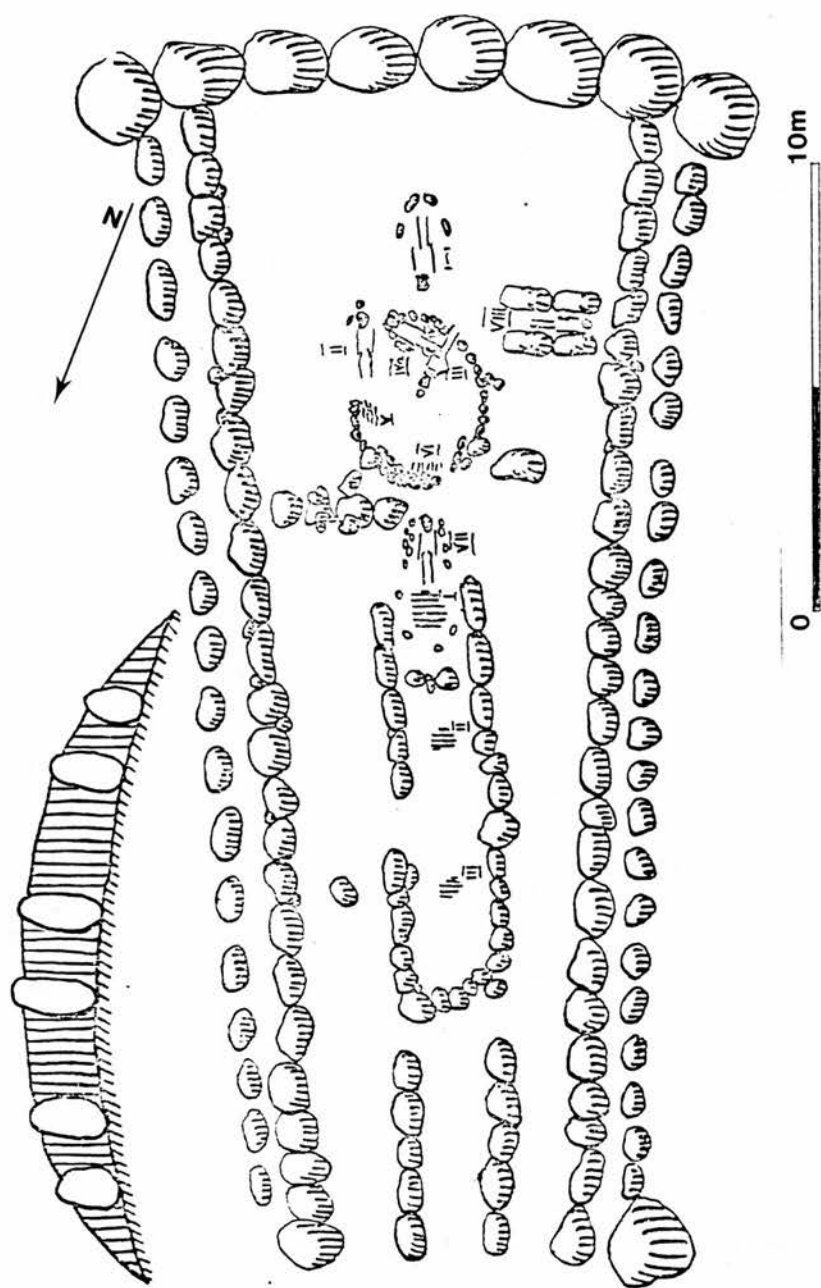


Fig. 84 Świerczynek long barrow (KUJ-40/2, after Chmielewski 1952)

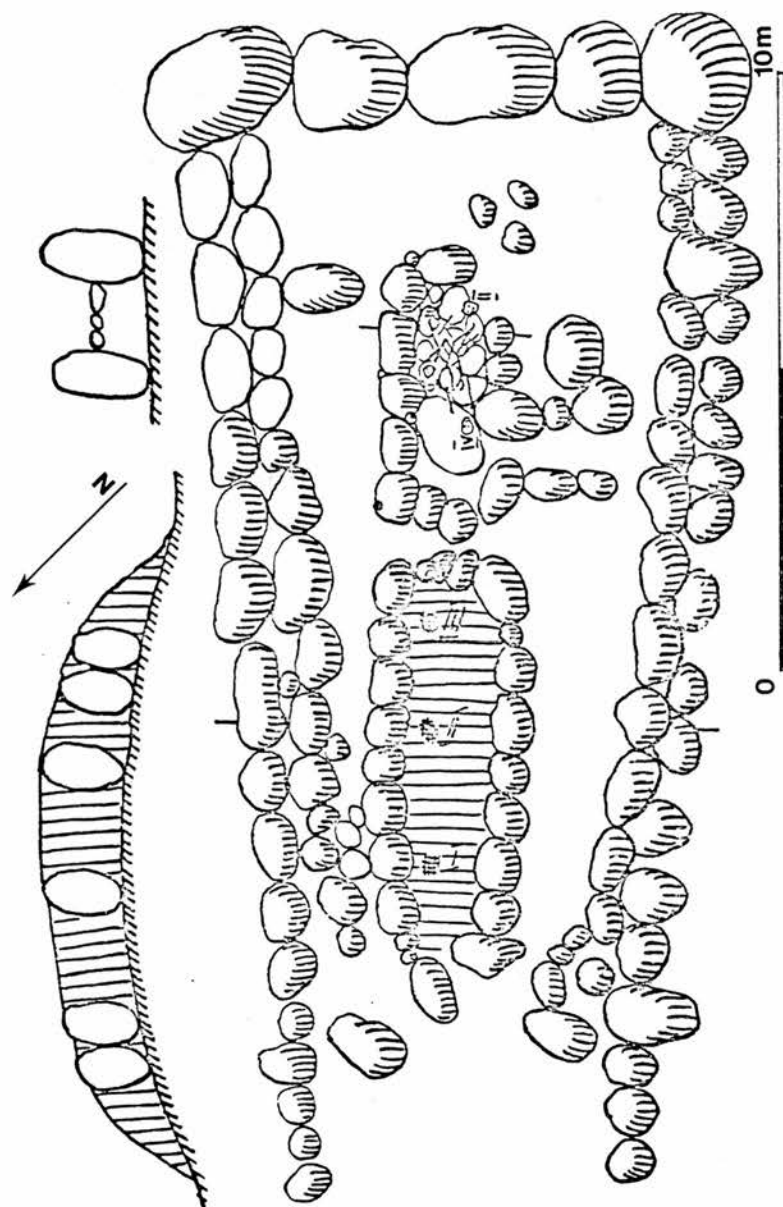


Fig. 85 Iłowo long barrow (KUJ-8/1, after Chmielewski 1952)

southern end, very large boulders were found lying across the enclosure. Chmielewski interpreted these as a surrounding for a ritually important area since black soil, pottery sherds and animal bones were found in the vicinity (Chmielewski 1952, 46). No other information is available from the excavation report in relation to these features, but partitioning of the interior offers itself as a plausible alternative explanation.

Only a few more monuments contain features to which a similar interpretation could be applied. At Wietrzychowice (KUJ-45/3) an incomplete line of stones (large enough to be included in a plan of 1:200 scale) can be noted cutting off the section of the barrow containing evidence of activities from the rest of the enclosure (Fig. 53). At Rybno (KUJ-29) there were large boulders lying across the barrow at various points (Jażdżewski 1936a, Fig. 1086), but Jażdżewski does not mention these specifically as he presumably interprets them as kerb stones moved away from their original positions.

It is particularly disappointing that the poor state of preservation at Sarnowo (KUJ-32), coupled with the rather hasty excavation of six of the long barrows in the early 1950's (Chmielewski 1952), have meant that we do not have sufficiently detailed information about the arrangements of the interior. Indeed, evidence recovered by Gabalówna during the excavation of the remaining monuments at this site is a painful reminder as to how much information might have been lost earlier (Gabalówna 1968b, 1968c, 1969a, 1969b; Wiklak 1975, 1982). However, there are certain indications that the principles of segmentation may have been applied here as well.

As suggested earlier, in the discussion of the form of the typical Kujavian barrow (see chapter 7), the division of the enclosure into functionally differentiated segments may have been sufficiently evident in the change of the angle of the long walls, and if there were any partitions at this point they may have been only temporary. However, evidence recovered from the last monument to have been excavated here (KUJ-32/8) is certainly worthy of consideration.

Since, like all the other monuments at Sarnowo, barrow 32/8 (Fig. 49) was entirely robbed of the enclosure stones, the course of

the outer walls could only be assessed on the evidence of shallow trenches in which the kerb stones originally stood. At a distance of about 4m north-east of the central grave a shallow trench was interpreted as the eastern termination of the barrow (Gabałówna 1968b, 136; Wiklak 1982, 37). Later during the excavation it was observed that one of the long wall trenches continued uninterrupted beyond the end of the barrow, and another end trench was found at about 9m to the east of the first one (Wiklak 1982, 41). Gabałówna's interpretation, which is also upheld in the final report published after her death, (*Ibid.*, 41) was that an extension (or annexe) was added to an already completed long barrow.

However, re-examination of the evidence suggests that a different interpretation may be applied. First of all, it is clear that the side-wall trenches continue uninterrupted, and without any deviation of direction, right up to the supposed second end of the barrow. Moreover, the trench which is supposed to represent the original eastern end is substantially narrower than either of the long walls and, indeed, only half the width of that at the eastern end of the hypothetical annexe. It is not, of course, disputed that the eastern end of the barrow may have been built in stages. What is suggested, however, is that the 'original eastern end' represents nothing other than an internal partition and that the true termination of the enclosure was at the supposed end of the annexe. Incidentally, should this interpretation be accepted, the central grave (see chapter 9) would then be located one compartment away from the eastern end, a phenomenon entirely in keeping with observations from Mecklenburg, Western Pomerania and indeed Denmark (see below).

A number of Danish earthen long barrows also provide evidence of the internal partitioning of enclosures, although here, with one possible exception, these divisions are in the form not of stone walls but of transverse wooden fences. They generally appear through and under the mounds as rows of stake-holes and may vary in number from one (Rustrup, DNK-14) to as many as thirty (Barkaer, DNK-2). At first glance the wooden partitions seem to be quite different from those encountered in Mecklenburg and Western Pomeranian long barrows,

but closer examination reveals that these structures, although different in form and construction, nevertheless share certain characteristics, notably pre-mound construction and close association with the graves.

Taking into consideration the evidence from Danish monuments alone, the principles of segmentation imply a division into two groups of sites: those such as Rustrup (DNK-14) or Bygholm Nørreremark (DNK-4) with only a few compartments, and others such as Østergård (DNK-12) and Barkaer (DNK-2) with a great number of segments. However, much more evidence is still needed before it will become possible to determine whether such a division is realistic or whether it results merely from the inadequacy of the available data.

At Rustrup (DNK-14; Fig. 86) one staggered row of stake-holes was found, seemingly dividing two graves (Fischer 1976, 66), and at Bygholm Nørreremark (DNK-4; Fig. 66 and 90) remains of three wooden fences were recovered (Rønne 1979, 5). Two of them enclosed a central grave (one at the eastern and one at the western end) and the third was found standing between another grave and a house-like structure. The central grave may originally have been laid in a small house and if so the wooden fences would seem to have been put up only after this was dismantled (Madsen 1979, 307), thus separating the area of the grave from the rest of the enclosure. The fences were permanent, still standing during the construction of the mound, and could be traced clearly through the sections.

The second group of sites reveals arrangements which are much more complex and difficult to interpret. The interiors of two rather ill-defined enclosures at Østergård (DNK-12/1 and 12/2; Fig. 87) revealed several compartments, although the precise number could not be determined because of the serious damage to the mounds (Madsen 1979, 305-306). In the eastern structure (12/1) the remains of nine fences were identified while the western structure (12/2) had at least three such partitions. Here the association between fences and graves (or rather compartments and graves) is very explicit as each grave was clearly constructed in a separate segment and the whole arrangement seems to have been deliberate.



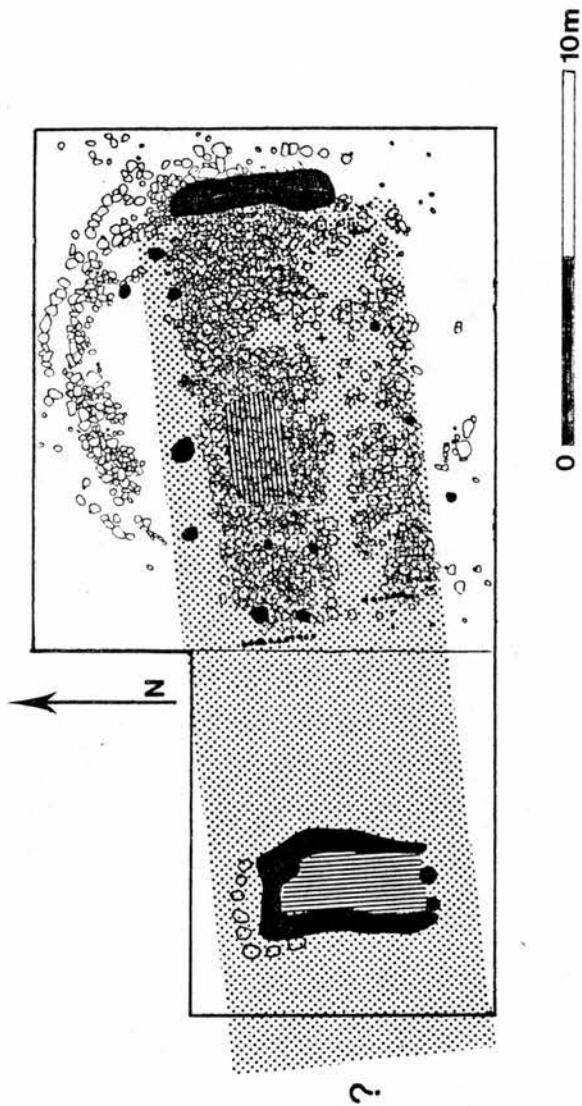


Fig. 86 Rustrup long barrow (DNK-14, after Fischer 1976)

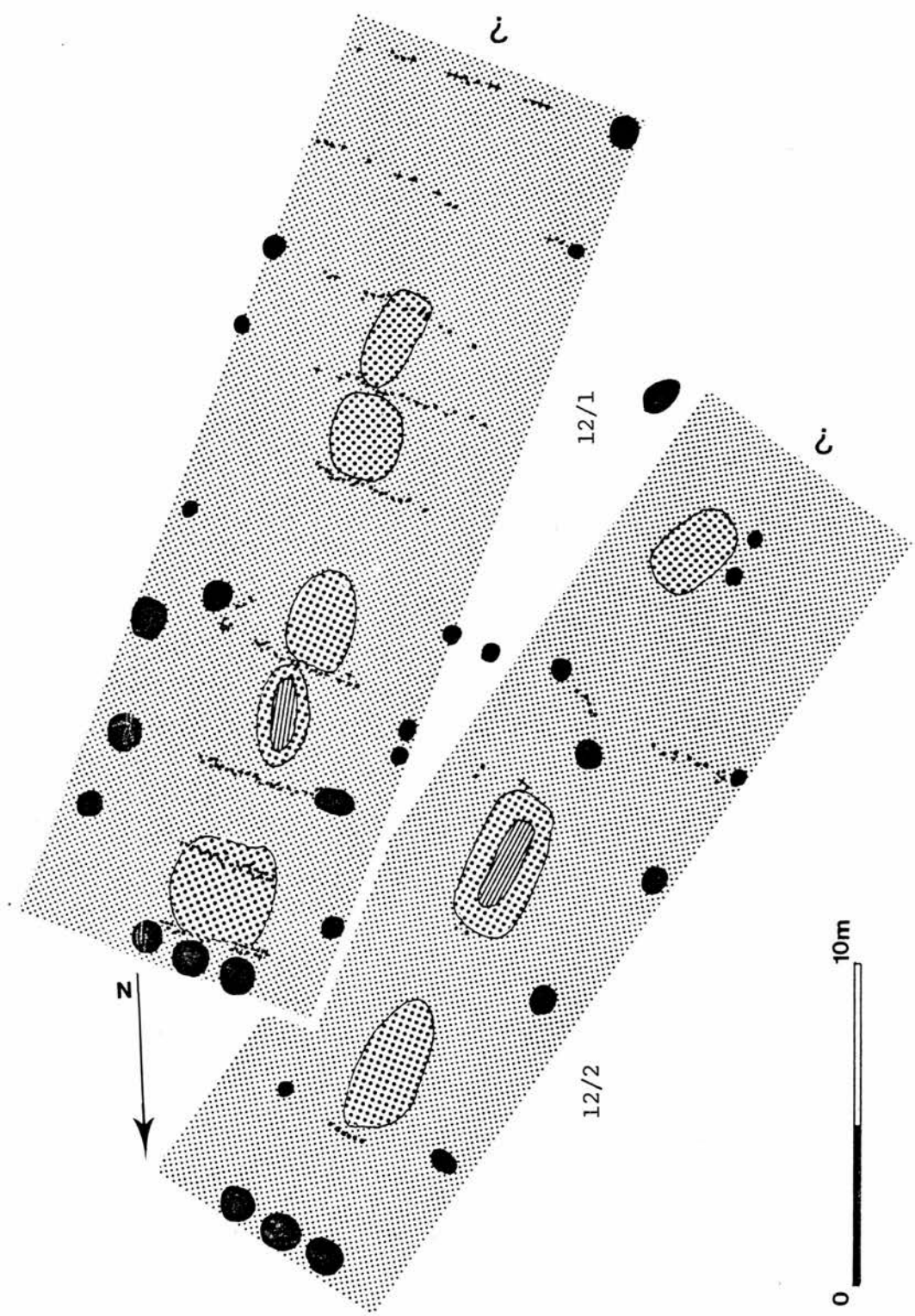


Fig. 87 Østergård long barrows (DNK-12) showing the arrangement of the interior into individual compartments (after Madsen 1979)

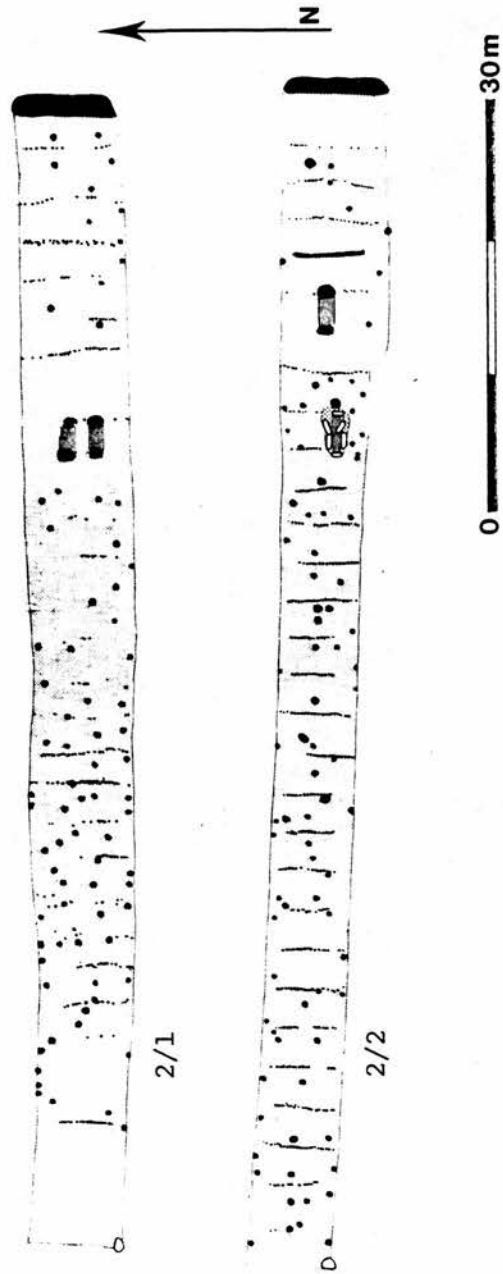


Fig. 88 The long barrow enclosures at Barkaer (DNK-2), showing the arrangement of the interior into compartments (after Madsen 1979)

But the ultimate in the principle of segmentation is undoubtedly revealed in the two structures, nearly 90m long, at Barkaer (DNK-2; Fig. 88). Although both of the enclosures were originally shorter and acquired their final length in two or three stages of construction (Glob 1975, 12) it is clear that the same process of construction of the compartments was applied from the beginning. In both enclosures the transverse wooden walls divide the whole of the interior into compartments roughly 3m in length (thirty of which are found in the southern and twenty-nine in the northern structure). The stakes, a dozen or so to each row, were placed 20 - 25cm apart across the whole width of the structure. The fact that in many instances the rows of stake-holes are seen curving round the roof-bearing (?) posts (Glob 1949, 5) suggests that they were put up after the main body of the enclosure was in place. That they were placed there permanently is equally evident. The fill of each compartment is different in colour, apparently owing to different quantities of charcoal (*Ibid.*, 5), and the partition walls could be followed for up to 50cm through the deposit. It has been variously suggested that differential fill in structures of this kind may be a result of gang-work (Ashbee et al. 1979) or of sequential infilling (Madsen 1979, 315). The latter suggestion seems more appropriate in view of the hypothetical function of Barkaer and would probably mean each compartment (starting from the west?) was serviceable for a certain period of time and then sealed off with a wooden fence and filled with soil, with ritual activities taking place in the next segment.

It is not possible for the moment to say whether the compartments were used one at a time, or whether several were used simultaneously. Glob does mention that at a few points within the long sides quern-stones were found (Glob 1949, 6). Their original interpretation as thresholds may imply that some access to the compartments may have been gained from the outside (see section 8.3). However, none of these suggestions can really be verified until complete excavation results are finally published and evidence can be properly considered. The association between graves and compartments is also clear, but it differs from that at Østergård (DNK-12). Only two graves were found

in each structure at what originally must have been the eastern ends but the segmentation clearly proceeded in the same manner during the subsequent extensions (Glob 1975, Fig. on page 12).

Having discussed the material evidence for segmentation of the interior of long barrow enclosures we must now consider the wider significance of this phenomenon and the implications it holds for our better understanding of the socio-ritual framework manifested in the North European earthen long barrow tradition.

The first common element, already mentioned in passing, is the obvious correlation between segmentation and graves. In the monuments discussed above, the transverse partitions, whether constructed in stone or in wood, separate the immediate surroundings of the grave from the rest of the enclosure. This relationship between segmentation and location of the grave is, upon detailed examination, even closer. In many barrows the grave seems to have been located in the second compartment counting from the eastern end. This is clearly evidenced at Karft (MBG-15), Pöglitz (MBG-19) and Zarnewanz (MBG-29) and may reasonably be inferred at Karsko (WPOM-15/1), Dolice (WPOM-10) and Bygholm Nørreremark (DNK-4). Similarly, at Østergård (DNK-12), in both enclosures, the graves nearest to the eastern end are located in the second compartment (Fig. 87). The situation at this site is more complex in so far as the enclosures included several other graves but, interestingly, there is also a gap of one compartment between each grave (or group of graves).

Furthermore, the same characteristic ritual may be demonstrated in two separate phases at Barkaer (DNK-2; Fig. 88). In the first phase both enclosures were shorter and the graves (one in the southern and two in the northern enclosure) were placed in what was originally a second compartment from the end (Glob 1975, Fig. on page 12). In the second phase (in the southern enclosure) exactly the same principle is followed: two compartments are added and the grave is again located in the second compartment from the eastern end. Whatever the reason behind this practice it seems scarcely possible that such a regularity of grave location, in structures which are not only geographically wide apart but also display a considerable variety

of form, should be considered purely accidental.

Considered in conjunction with other evidence, the transverse partitions also imply a functional differentiation between various segments within an enclosure. It is clear that many activities, either associated with or independent of burial ritual, took place in different compartments. These are evidenced in finds throughout the entire area of the enclosure. The lack of such evidence in certain segments, as well as the differential fill of the compartments (with soil or stones) may be equally important with regard to certain rituals. Finds of pottery, animal and human bones, amber beads, charcoal and ashes have all been noted at different parts of the Mecklenburg long barrows. Pottery scatters and deposits in pits have come to light in Western Pomerania. Indeed, in Kujavia rich deposits of this kind (see chapter 9) are not invariably associated with graves but appear also in other parts of enclosures. In Denmark, cultural debris were found to have been deliberately incorporated in rituals and are amply in evidence at Østergård (DNK-12), Stengade (DNK-18) and, of course, at Barkaer (DNK-2). At the latter site both structures yielded evidence of pits with deposits of amber and copper beads, complete pots or semi-finished flint implements. Deposits of burnt animal bones and layers of oyster-, mussel- and cockle-shells have also been found throughout (Glob 1949, 8-9).

We are not as yet in a position to give a meaningful interpretation to these phenomena and must be aware of the possibility that such fascinating examples as Østergård or Barkaer may constitute an exception rather than a rule. The nature of activities which resulted in the segmentation of the enclosures is, for the most part, outwith the realm accessible to an archaeologist. But the evidence outlined above does imply that the use of enclosures was in accordance with a certain set of principles which, although doubtless freely interpreted and individually applied, nevertheless resulted in a recognisable pattern of interior arrangements of which segmentation is but one. This phenomenon will demand more attention during excavations and in their subsequent interpretation, but it can now be recognised as a common element throughout the earthen long barrow province.

In concluding our discussion of timber façades and related structures the problems of their function and relative position within the construction of the monument must be considered. Here the re-interpretation of the Barkaer houses (DNK-2, Glob 1975) as ritual, burial structures rather than habitation places is of considerable importance. It is very clear that the construction of the Barkaer enclosures proceeded in several stages (at least two phases for the northern and three for the southern enclosure - see section 8.4). In each case the eastern end was the last to be built. However we interpret the terminal ditches, it is evident that these belong to the final phases of construction, possibly when there was no longer any need for placing the burials and performing rituals within the interior and the enclosures were formally closed off.

Whether constructions at the eastern end of the enclosures preceded or were contemporary with the raising of the mounds cannot always be determined. In several cases these seem no longer to have been standing (Østergård, DNK-12 or Bygholm Nørreremark, DNK-4) but what is important is the fact that they were part of the formal closing-off of the interior. Such an interpretation can well apply to Rude (DNK-13), where the timber façade seems to have been the last structure built, and to Lindebjerg (DNK-8), where temporary and permanent closing-off stages are suggested.

The above discussion of entrance arrangements into the long barrow enclosures makes it very clear that there was no uniform solution to the problem of access to the interior. Although the evidence outlined above does suggest a certain preference for the location of an entrance in one of the ends, this was by no means a general rule. In several instances there is clear evidence that access could be gained from one of the long sides, sometimes through more than one entrance. Although a certain amount of regional conformity does exist, the variety of arrangements outlined above suggests that factors such as duration of use of the barrow, the type of activities performed and the individual preferences of the users were likely to govern the form and location of an entrance to any particular long barrow.



#### 8.4/2 TIMBER BUILDINGS

Apart from the features described above (see section 8.4/1) and in addition to a variety of grave structures (see chapter 9) quite a number of earthen long barrows reveal traces of timber buildings which are not regarded as burial chambers *per se*, but which undeniably form an element in the architectural and ritual content of the barrows. Such structures have been positively identified in Kujavia and Jutland and may also be inferred at a few monuments in other regions. Although several types of building may be distinguished, the following discussion is based not upon a comparison of architectural detail but rather on their location within the earthen long barrow enclosures and, particularly, on their relationship with the graves. Some explanation of this approach is therefore necessary.

It has already been stressed that exact comparability of form must not be expected in monuments which, although they belong to the same tradition, are nevertheless separated by distance and time. Across the whole North European Plain there is a wide variety of architectural and ritual forms (witnessed among others in the domestic sphere) but only some of these elements will be apparent in any particular monument. Thus differences in form may be related to regional architectural and stylistic patterns and need not reflect differences of function (cf. the great variety of graves, chapter 9). Interpretation of the function of individual phenomena will therefore depend upon contextual associations, and such differences are more likely to indicate possible functional variation.

Observing the above criteria, two kinds of timber structure may therefore be identified: those associated directly with graves, and those which are not. A common denominator which allows us to consider the timber structures as a single phenomenon is their location within the earthen long barrow enclosures. Remains of timber buildings which are not associated with graves are presently known from three Kujavian long barrows and one monument in Jutland. The latter barrow is of particular importance in that it also contains an example of a timber building within which a Konens Høj grave has been located.

The wooden buildings from Gaj (KUJ-7/1; Fig. 89) and Obałki

(Kuj-22/2; Fig. 51) are relatively well known (Chmielewski 1952, *passim*) and the recent discovery at Zberzyn (Kuj-47, Gorczyca 1981; Fig. 90) adds interesting details of construction to an otherwise familiar form. At Obałki the structure was preserved only in its foundations but at the other monuments, due to their destruction by fire, details of above-ground construction could be noted.

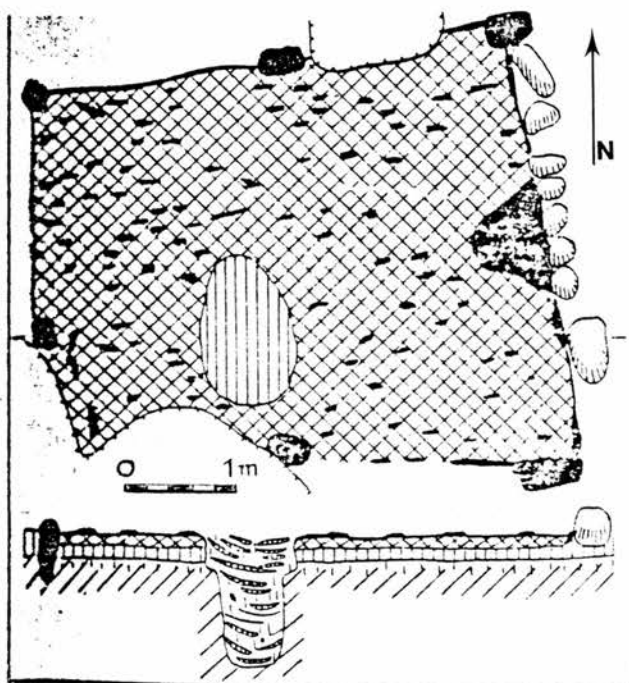


Fig. 89 Plan of timber building at the eastern end of Gaj (Kuj-7/1) long barrow (after Chmielewski 1952)

For the purpose of the present discussion it is necessary only to remind ourselves that all three buildings were found within the wider, eastern end of their respective enclosures, and that in each case access to the interior seems to have been gained through a gap in the eastern end of the kerf (see section 8.3). The ground plans of the buildings (from square to trapezoidal) as well as their size (3-4,4 x 5m at Gaj, 4 x 4m at Zberzyn and 4,8 x 4,8m at Obałki), are roughly comparable. In each case a clay floor was laid upon a cleared surface and timber uprights were set in corners and around the edges providing

a framework for construction of the walls. At Zberzyn and Obałki the floor consisted of two layers separated by a thin band of soil. The evidence from Zberzyn has been interpreted as representing two stages of one phase of construction (Gorczyca 1981, 16-17), but at Obałki there is not enough evidence to determine whether there was only one building or possibly two, constructed at different times in exactly the same location (Chmielewski 1952, 86).

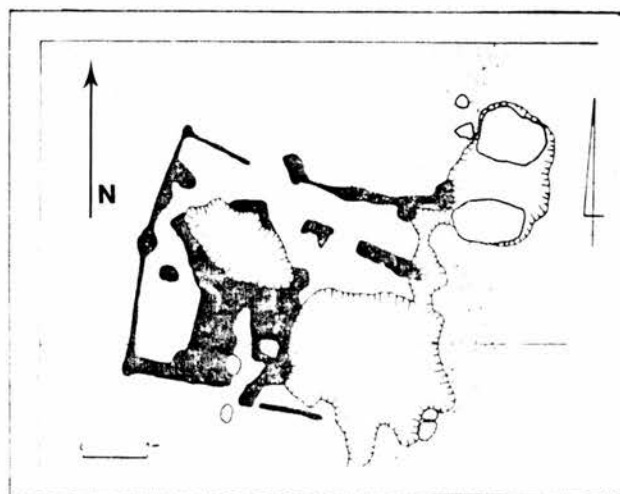


Fig. 90 Plan of timber building at the eastern end of Zberzyn (KUJ-47) long barrow (after Gorczyca 1981)

The construction of the roof has been deduced in each case from the position of the foundation posts, and tent-like roofs at Zberzyn and at Gaj have been postulated (Gorczyca 1981, 17; Chmielewski 1952, 90). Assuming that these structures were indeed roofed, the suggestion of a tent-like roof at Zberzyn rests on reasonable evidence of the distribution of posts (Fig. 90) and the choice of wood (see Appendix 2). The situation at Gaj is, however, less clear. From the horizontal plan of the structure (Fig. 89) one gains the impression of a post in the middle of the eastern wall. But there is no certainty that this feature, which Chmielewski presumably interpreted as evidence of a roof-bearing post, does indeed represent a post-hole. It is consider-

ably larger in diameter than any of the other post-holes (which are roughly comparable one with another) and since this feature was not sectioned during the excavation its identification as a post-hole cannot be certain. It must further be borne in mind that the said post-hole may not in fact be associated with the rest of the building but could feasibly represent a different (earlier?) phase of construction, belonging to another structure. There is unfortunately no evidence in support of any of these possibilities.

Neither can the actual entrance to the building be determined from the plan. The location of the structure immediately within the eastern end of the enclosure, as well as the free space in the stone kerb in front of it, do indirectly suggest the position of the entrance in the eastern wall (see section 8.3). Were we, however, to accept the hypothesis of the tent-like roof with one of the bearing posts in the middle of the eastern wall, the entrance would have to have been to one side of it and not in the middle. At Zberzyn the south-eastern part of the building has been obscured by a later disturbance, but it was relatively shallow and stopped above the level of the bottom of the posts. As no evidence of post-holes anywhere along the eastern wall of the building has been recovered, it is possible that this side was open and provided access to the interior (Gorczyca 1981, 17).

At Bygholm Nørremark (DNK-4, Rønne 1979; Fig. 91) the easternmost structure has been tentatively interpreted by the excavator as the remains of a transversely placed house (*Ibid.* Fig. 9). The structure was about 8m long and 4m wide, with four posts placed in the central bedding trench and a sub-rectangular arrangement of somewhat smaller posts set around the outside, the gap to the west presumably indicating an entrance. Madsen interpreted this feature as a four-post facade with "...a more elaborate timber construction of some kind" (Madsen 1979, 307). There is indeed some doubt as to whether this structure should be interpreted as an enclosed building. In contrast to the central structure in the barrow (see below) the outside posts are widely spaced (up to 2m apart) and the whole arrangement resembles in certain aspects the free-standing colonnade within the eastern end of the Nutbane long barrow (Morgan 1959, Fig. 3).

The westernmost timber building at Bygholm Nørreremark (Fig. 66) is the smallest of all, being just 4 x 2m in size, built on a rectangular framework of posts with no visible supports in the middle. The suggested reconstruction of a flat-roofed building is very different from the other two structures (Rønne 1979, Fig.9). According to the interim report the easternmost and westernmost structures appear to be later than the central grave-containing building (*Ibid.* 7) and contextual differences between them may indeed reflect not only chronological and locational, but functional differences as well. Unfortunately, the question of the relationship between these three structures may not be solved until the complete publication of the Bygholm Nørreremark excavation.

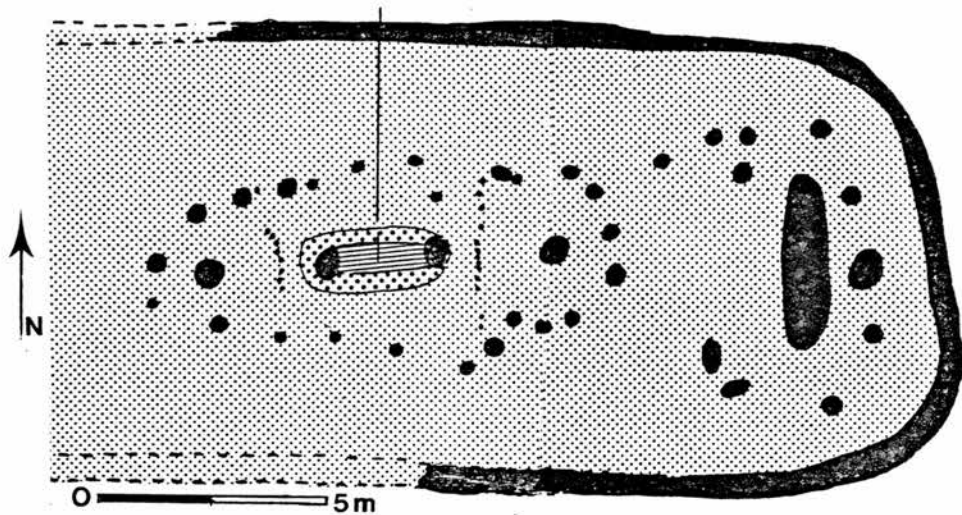


Fig. 91 Plan of easternmost and central structures at Bygholm Nørreremark (after Madsen 1979)

This same long barrow does, however, contain one of the few examples of a house-like structure whose relationship with the grave is indisputable (Fig. 91). The uncovered remains show the oval plan of a building about 12m in length and 6m in width, constructed on a

framework of individual posts. The four central post-holes have been interpreted as the remains of roof-bearing posts, with the inner two also serving as gable ends of the grave (Madsen 1979, 307). The precise sequence of construction is not yet certain but the location of the grave (between the central posts) does imply that the building was already in place. Similarly, it is hoped that the final report will clarify the more detailed aspects of this structure.

Apart from Bygholm Nørremark, several earthen long barrows offer examples of timber structures in association with graves but nowhere is the evidence sufficient to establish the relationship with reasonable certainty. Traces of timber structure which may have surrounded a grave have been recovered at Rustrup (DNK-14, Fischer 1976; Fig. 75). As noted earlier, traces of post-holes were found to the west of the façade (see sections 8.2 and 8.3) and mainly to the north of the area of the grave. These may have been associated with the façade, formed part of the outer enclosure or, indeed, have been part of an independent structure in which a burial was placed.

Another example of a building in association with a grave has come to light from one of the Sarnowo barrows (KUJ-32/9, Wiklak 1975a; Fig. 92). Here the situation differs, however, in that the building is stratigraphically later than the grave although its location directly above the grave (cf. Fig. 49) suggests that placement was far from accidental.

The outline of the structure could be seen in bands of grey sand (10-20 cm wide and 5-20 cm deep), clearly contrasting with the yellow surroundings. The structure was rectangular, 2,4 x 3m in area, with a smaller unit inside (1,6 x 2m) and another, semi-rectangular segment adjacent to the eastern wall. Whether this should be interpreted as one multi-roomed building, or whether it reflects more than one phase of construction, can no longer be ascertained. Nothing can be deduced about its above-ground appearance, but the overlap of the walls at the north-eastern and south-western corners may imply a dove-tailing construction (*Ibid.* 49).

The content of the interior is equally obscure. Charcoal



pieces found within the area of the building as well as around it were apparently very small and there is no evidence suggesting that the structure itself was destroyed by fire. It is possible that some burning did take place in the interior and that the charcoal may have become spread out over a wide area, possibly while the building was being demolished. That this building was taken down prior to the

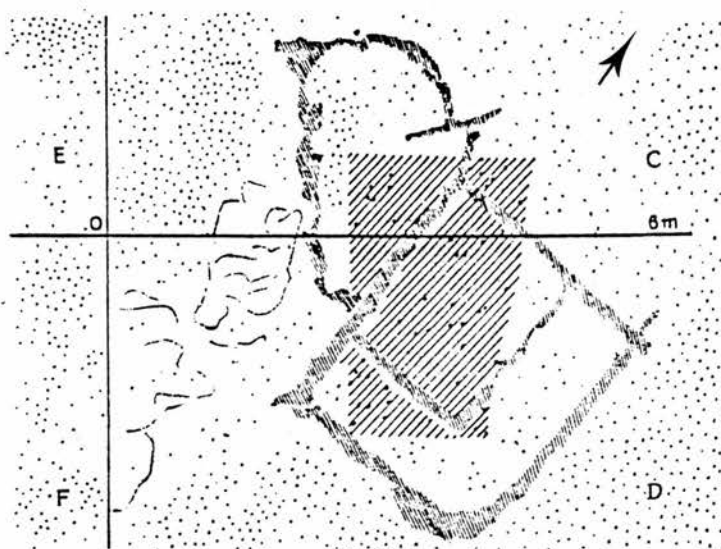


Fig. 92 Plan of timber building at Sarnowo (KUJ-32/9) showing its location above the grave (after Wiklak 1975a)

construction of the mound may be clearly seen from the position of the shell-containing layer deposited half-way up the mound (Fig. 49).

Traces of yet another wooden structure probably associated with a grave are also known from the trial excavation of a mound at Stradów (LPOL-6; Gromnicki 1961). Here the grave - a pit lined and covered with limestone slabs - was found to have been surrounded on the northern, southern and western sides by a foundation trench dug 0,3 - 0,5m deep into the ground, with stone packing and traces of posts placed one beside the other (*Ibid.* 13). Large quantities of charcoal and daub were also found in the vicinity of the grave. All



these finds suggest a timber-built (and possibly clay-lined) structure but unfortunately neither the stratigraphy nor the exact positioning of the features is known and, without a total excavation of the site, it is difficult to gauge whether the evidence represents two separate events or whether it indicates some sort of timber building surrounding the grave.

Notwithstanding the ambiguity of the relationship between some timber structures and graves, there is enough evidence to justify reconsideration of a few other sites where comparable features have been noted. The old Mecklenburg reports have already been mentioned during discussion of other structures (section 8.4/1) and their credibility has been established. It is more difficult, however, to infer the existence of timber buildings from the descriptions by J. Ritter and his contemporaries as these do not contain the necessary details. Nonetheless, it should be noted that at several of the Mecklenburg long barrows substantial amounts of charcoal, ashes, burnt and unburnt bones, animal bone and pottery sherds, often mixed together, have been encountered. These are known particularly from Lübow (MBG-17), but have also been found at Helm (MBG-14), Karft (MBG-15) and Perdöhl (MBG-18/2); at the latter site the charcoal was even identified as originating from fir wood (Ritter 1841b, 31)

Similar descriptions are available from some older excavations in other areas. At Rzeszynek (KUJ-30), Słaboszewo (KUJ-34) and Kłeby (WPOM-16) layers of charcoal deposits have been interpreted as 'hearth-middens' (Chmielewski 1952, *passim*). But although we are not in a position to prove or disprove that such features do actually represent the remains of destroyed timber buildings, the regularity with which such reports occur and the consistency of their description throughout the earthen long barrow province are quite remarkable.

Very scanty traces of what may have been a timber structure surrounding the grave were noted at Wietrzychowice (KUJ-45/5; Jadczykowa 1970). At a distance of 1,2m from the eastern end of the barrow were found two post-holes, each 0,4m in diameter. These were located 1m apart, on either side of the main axis. Two more such post-holes appeared to the north of the grave pit. These features are

not marked on the plan of the barrow (Jadczykowa 1970; Fig. 53) and it is therefore not possible to offer any interpretation. It is however possible that they represent all that is left of some kind of timber construction, possibly beginning with a narrow corridor which led to a wooden building surrounding the grave. Unfortunately the soil conditions of many Kujavian barrows are not conducive to the preservation of organic materials, and unless the structures have been very substantial or else destroyed by fire (as at Gaj, KUJ-7/1 or Zberzyn, KUJ-47) the chances of recovering anything other than the most fragmentary remains are very slim indeed.

Very little evidence of timber buildings is available from the area of Lower Saxony. The remains of interior structures recovered at the Sachsenwald long barrows are very ambiguous and only at one of them have any comparable traces been observed (LSAX-8/ ; Sprockhoff 1952; Fig. 71). Colourings of earth, roughly circular in outline, have been noted surrounding the grave pit and these may possibly represent the lowest levels of a timber framework. There is no evidence however to indicate whether these should be interpreted as a free-standing arrangement of posts, or indeed as the framework of a solid building.

Some other Kujavian long barrows, especially those excavated in the 1930's by Jażdżewski, do however offer evidence worthy of particular consideration in the context of timber structures. At certain barrows from Leśniczówka (KUJ-17), Obalki (KUJ-22) and Wietrzychowice (KUJ-45) Jażdżewski discovered what he termed 'hearth-middens' - thick layers of deposits which contained large quantities of charcoal, ashes, broken pottery, flint implements, burnt and unburnt animal bones and occasionally human bones (Jażdżewski 1936a, *passim*). Such deposits are generally considered to represent evidence of ritual fires and funerary feasts which were conducted directly within the confines of the earthen long barrow enclosures (Chmielewski 1952, *passim*; Jażdżewski 1936a, *passim*, 1970a, 18; Ashbee 1970) and this interpretation has never been questioned.

Some of these deposits may indeed represent the remains of fires or feasting activities but a number of them reveal features

totally inconsistent with their interpretation as evidence of open fires. This is particularly clear in the case of deposits from the Lesniczówka complex (KUJ-17). Here layers varying between 15 and 30cm in thickness have been recovered at three barrows (Jażdżewski 1936a, 172-182; Fig. 50). All three rested upon the old land surface and two (KUJ-17/2 and 17/3) were located directly above the graves. The 'hearth-midden' of barrow 17/2 was roughly rectangular in outline and measured 4,5m at its maximum length and width. It contained sherds of pottery, flint implements, bone needles, animal bones (some of them burnt), shells, a copper ring, burnt clay and charcoal.

The 'hearth-midden' of another barrow (17/3), again completely overlying the grave near the eastern end of the enclosure, included in its contents a child's skeleton, a few pottery sherds and animal bones, but it appeared mainly as the intensely black, greasy deposit of a vast quantity of charcoal, spread in a trapezoidal area of about 5 x 3-4,2m (*Ibid.* 179). At one point, over the north-eastern end of the grave, there was a pit c. 0,7m deep, filled with the same material as the rest of the 'hearth-midden'.

At Obalki (KUJ-22/1; Fig. 51) a 'hearth-midden' layer was also noted. It began at about 13m from the eastern end and was seen as a band 1,6m wide and 7m long, running to the south of grave 1 and apparently being cut through by grave 4 (Chmielewski 1952, 83). To the north of grave 1, below the old land surface, a 'hearth' was also found which Chmielewski attributed to an earlier, pre-barrow phase.

Since there are no sections of these features, their stratigraphic position relative to one another is unknown. There are therefore several possible interpretations. The features to the north and south of grave 1 may represent independent episodes of activity at this site and thus not be in any way related to one another. Equally, they may be part of the same structure, which was damaged during the construction of graves nos. 1 and 4. Furthermore, were we to accept that these two features represent one structure (for example the floor of a building) then the question would arise as to whether they reflect pre-barrow activity (traces of an earlier occupation of the site) or possibly they are the remains of a timber

building which was constructed in the course of ritual activities associated with the barrow enclosure. In view of their regularity of outline (Fig. 51) it seems more reasonable to accept that these two features represent the structural remains of one construction rather than a 'hearth-midden' layer and a separate hearth. Its chronological position in relation to the construction of the earthen long barrow enclosure remains unknown, except that the structural remains must be older than grave 4 and probably than grave 1.

Several features of these deposits are of particular importance in the present context. Firstly, with regard to Leśniczówka (KUJ-17), they are exceptionally thick and remarkably regular in their outline, with clear and often straight edges (Fig. 50). It is however difficult to accept that a freely and, to judge from the quantity of charcoal, enthusiastically burning fire would result in such a regular outline unless it were contained within some edging. No evidence of a stone frame has been noted around any of these layers but three pits, about 0,3m in diameter and dug 0,1m deep into the old land surface, were found along the southern edge of one of the 'hearth-middens' (KUJ-17/2).

Secondly, the size and exact location of these features must also be considered. Their size is quite considerable (note dimensions above) and the heat from such a large fire would have rendered any activity, notably feasting, anywhere in the vicinity of the eastern end quite impossible. That the fires must have burned fiercely is clear from Jażdżewski's observation that some of the kerb boulders were in a friable state, such as is usual with granite rock after exposure to very high temperature.

As to the location of these deposits, above and around the graves, it is consistent with the evidence of wooden structures surrounding graves attested elsewhere (see above). That the burning of these structures cannot have been accidental is shown clearly in the regularity with which this phenomenon occurs in the earthen long barrows, not only in the North European Plain but also in the British Isles (Ashbee 1970, *passim*). On the basis of the above arguments and in view of comparable evidence from other monuments, it seems

plausible therefore to offer an alternative interpretation for these 'hearth-middens' and to suggest that in fact they represent the remains of timber structures associated, in one way or another, with the graves.

Having outlined the evidence for the existence of timber buildings within the earthen long barrows we must now consider their function within these monuments as well as discuss the wider significance of this phenomenon in the light of our knowledge of the cultural complex under consideration. The occurrence of timber buildings not only in the North European Plain but also in other areas (Ashbee 1970) does suggest that, irrespective of individual traits, these structures form an important element in the ritual function of the earthen long barrows. This is further demonstrated in the frequent deliberate destruction of timber buildings by either fire or demolition.

On the other hand only relatively few such buildings are known and, although this number is likely to increase, either through excavation or through re-interpretation of the already-known material, it is not possible to determine at present whether they represent the more unusual ceremonial events or are a common occurrence which until now has not been recognised.

The function of these buildings in the context of ritual performances within the earthen long barrows is difficult to assess. Attention has already been drawn to the fact that two types may be distinguished - those which have no apparent association with the graves, and those which, through their location, are closely connected. This distinction may reflect functional differences but it may also represent different facets of the same phenomenon, possibly reflecting the evolution of the earthen long barrow ritual over a period of time.

The wooden buildings associated with the graves appear to belong, in general, to the earlier phase of the earthen long barrow tradition. This seems to be the case in Kujavia, where sites such as Leśniczówka (KUJ-17), Obałki (KUJ-22) and Sarnowo (KUJ-32) are thought to have been constructed during the Pikutkowo phase (see

thought

chapter 5 and 9) while Gaj (KUJ-7) and Zberzyn (KUJ-47) reveal chronologically later associations. Although chronological distinctions between different earthen long barrows must be considered tentative, there is evidence to indicate a plausible explanation for the existence of different types of building.

It has previously been observed that many earthen long barrows had been built upon earlier settlement sites (for example Sarnowo, KUJ-32; Gaj, KUJ-7; Wollschow, MBG-28; Tosterglope, LSAX-9; Barkaer, DNK-2 or Stengade, DNK-18). It is therefore necessary to consider the question of whether some of the timber building remains do represent earlier structures from the settlements or were in fact erected during the construction of the barrows. In the case of another Sarnowo building (KUJ-32/8), the stratigraphy noted during excavation revealed that the central grave (no. 1) was dug into the floor (?) of a building (Wiklak 1982, 62; Niesiołowska - Średniowska 1982, 112). There is no evidence however to indicate whether, at the time of the grave construction, the building was still complete or already destroyed. No traces of any substantial fire have been observed around the grave and therefore the burning of the building subsequent to the burial may reasonably be excluded. Wiklak is of the opinion that these remains must represent a ritual structure, which he compares to Gaj (KUJ-7) and Obałki (KUJ-22), constructed above the grave, but he disregards the possibility that the structure was already in existence when the grave was dug. On the other hand it has been suggested that these remains should be considered as belonging to a pre-barrow phase (Niesiołowska - Średniowska 1982, 112), associated with the earlier settlement. Niesiołowska - Średniowska moreover argues that the so-called plough-marks are in fact disturbances associated with the construction of the house and that quantities of charcoal and ashes recovered in the analysis of the plough-marks' content (Dąbrowski 1971) resulted from the destruction of this house by fire.

There is insufficient evidence to solve the problem of the plough-marks, but what is clear is that the grave was placed in an already existing structure. Irrespective of whether at the time of the grave's construction the house was still standing or already in ruins, the



builders of the grave must have been aware of its existence. It is therefore very likely that this choice of location was made deliberately.

By analogy a similar explanation may be suggested for the construction of graves nos. 1 and 4 at Obałki (KUJ-22/1). Although the evidence here is not as clear as at Sarnowo it seems plausible to suggest that the traces of earlier settlement were still visible and that this location was deliberate. A similar situation may be suggested for a few sites in Jutland. We still do not know precisely what relationships existed at Barkaer (DNK-2), but the location of the two long barrows on an earlier settlement is clear (Glob 1949) and future publication of these sites may indeed provide some additional information.

Form Bygholm Nørreremark (DNK-4) there is no information at present as to the relative sequence of central house and grave. It is interesting however to note that this structure must have been destroyed prior to construction of the mound, and possibly before the other two buildings were constructed (Rønne 1979, Fig. 1). Similarly at Rustrup (DNK-14) evidence suggests the destruction by fire of the grave-surrounding structure prior to the construction of the stone mantle (Fischer 1976).

The re-interpretation of the 'hearth-middens' from Leśniczówka (KUJ-17) does however present some problems. No traces of earlier settlement were noted in excavation and it may be that the buildings were erected especially for purposes associated with the burial. Similarly at Gaj (KUJ-7) the situation is far from clear. Traces of earlier settlement (of the Pikutkowo phase) have been observed underneath the mound and it is possible that the building belonged to that phase. On the other hand, evidence from the interior of the building (a pit with four pottery sherds) does not indicate that this structure had been lived in. It is however possible that it represents a second structure constructed directly above the earlier one (note difficulties in accepting the central post-hole of the eastern wall, see above). Similarly at Zberzyn (KUJ-47) and Obałki (KUJ-22) the double layer of the floor could plausibly be explained as representing two individual buildings, one overlying the other, and not necessarily as the con-



struction of an impervious floor.

In conclusion it may be suggested that the evidence available at present is still not sufficient to allow more than a tentative hypothesis on the function of the structures. It is suggested that some of the timber building remains do represent earlier settlement structures and that the barrows were placed in their locations precisely with a view to incorporating earlier house structures into the overall ritual. This would not only carry important implications for the understanding of barrow distribution, but would also throw new light on the socio-economic character of the *TRB* communities, particularly on the question of a partially mobile economy.

Moreover, once the principle of the incorporation of earlier house structures in burial ritual is established, this may - in circumstances where location on an earlier settlement was for some reason not possible - have been expressed symbolically by the erection of a building, either prior to or after the burial, and by its subsequent destruction. Examples of this may be indicated at Leśniczówka (KUJ-17), Sarnowo (KUJ-32) and Bygholm Nørreremark (DNK-4; note also Madsen's comments on the deliberate deposition of the domestic rubbish around the graves at Østergård, DNK-12, Madsen 1979, 308). With the passing of time this practice may have acquired additional dimensions, and the function of such a building may have evolved from a simple burial place (as at Sarnowo 32/8) to a multi-purpose sanctuary (as at Gaj, KUJ-7, or Zberzyn, KUJ-47) which on occasions may have been constructed outside the enclosures (possibly at Rude, DNK-13). At sites where only certain stages of the suggested evolution process are observable, the evidence to support this hypothesis is necessarily limited. But it is interesting to note that both types, i.e. the grave-house and the sanctuary, seem to be present at Bygholm Nørreremark long barrow (DNK-4) and at Obałki cemetery (KUJ-22), indicating possible connections within an otherwise ill-understood process and providing a starting point in future research for a fuller interpretation of this phenomenon.

CHAPTER 9      THE GRAVES AND BURIAL RITUAL OF THE NORTH EUROPEAN  
EARTHEN LONG BARROWS

9.1      INTRODUCTION

With the exception of recent studies in Denmark (Kjaerum 1977; Madsen 1972, 1979) the graves within the earthen long barrow enclosures have never received adequate attention. There are several reasons for this state of affairs. Firstly, in many areas the environmental factors in the barrows' location, particularly in relation to soil, have seriously affected the preservation of human remains as well as that of possible organic components of the grave structures. In exceptional circumstances evidence concerning details of grave construction suggests that organic materials may have been used more frequently than has hitherto been appreciated (cf. chapter 8).

Secondly, where graves have been discovered, the information about their form and construction is insufficient and more often than not the graves are described and recorded in a perfunctory manner, without detailed plans and sections (for example Chmielewski 1952; Schuldt 1965, 1966c, 1967; Sprockhoff 1952, 1954). In such circumstances recognition of the original form is very difficult and must rest upon circumstantial evidence.

A third factor which has had a fundamental influence upon the study of the graves is the lack of understanding of the relationship between the graves and the barrows themselves. This results from the persistent belief in the singularity of function of the barrows (i.e. for burial) and from a failure to distinguish between the short-term (burial) and long-term (monumental) character of the monuments in question (Kinnes 1975, Midgley 1983). Such an approach has resulted in attention being focused on the form of the barrows at the expense of the graves. The purpose of the following discussion is to redress, at least in part, the balance between these two elements.

Classification of all primary *TRB* graves, based upon characteristic features recovered in excavations, is contained in tables 9-11

although many reservations must be expressed. Firstly, it should be observed that information about graves cannot be considered as fully representative. Considering the five major concentrations of barrows

Table 7. ELBs with record of burial in relation to total known, by area

AREA	TOTAL OF BARROWS	RECORD OF BURIAL		EVIDENCE OF BURIAL	
	DEFINITE	No.	%	No.	%
KUJ	103	36	35	29	28,2
WPOM	174	18	10,3	12	6,9
MBG	40	20	50	9	22,5
LSAX	44	6	13,6	6	13,6
DNK	26	23	88,5	23	88,5
TOTAL	387	103	26,6	79	20,4

Table 8. Graves known in each area as proportion of total

AREA	TOTAL OF GRAVES	% OF TOTAL
KUJ	63	42,3
WPOM	18	12
MBG	17	11,4
LSAX	8	5,4
DNK	43	28,9
TOTAL	149	100

together, only in 103 examples (26,6%) out of the minimum definite number of 387 could any mention of burial be traced and only 79 examples (20,4%) offered any information about the grave structures (Table 7). On a regional scale the evidence is even more unbalanced; 88,5 % of Danish earthen long barrows offer evidence of burial structures, in contrast to only 6,9% in Western Pomerania. On the other hand, although 22,5% of the Mecklenburg barrows contain evidence of burials only a few offer any details of construction. With regard to the actual number of graves (Table 8) Kujavia and Denmark account

Table 9. Details of grave construction and burial ritual in Kujavia (OLS - old land surface)

BARROW	TOTAL OF GRAVES	INDIV. GRAVE	DIST. FROM E END	LOCATION		CONSTRUCTION					NO. OF SKELETONS	ORIENT. OF SKELET. OR GRAVE	SEX	AGE	GRAVE-GOODS					RITUAL DEPOSITS
				PIT	OLS	STONE CONSTR.	PAVEMENT	COFFIN	HOUSE	CIST					POTTERY	FLINT	STONE	AMBER	COPPER	
KUJ-6	?										5									
KUJ-7/1	2	1	13	x							1	E-W	M	65		x				
		2	40	x							1	E-W	M	35						
KUJ-8	3	1	7	x							1	E-W		A						
		2	8	x							1	E-W		A						
		3	9	x							1	E-W		C						
KUJ-9/1	1	1	7	x		x														
KUJ-17/1	1	1	5		x						1	NE-SW								
17/2	2	1	3		x		x					NE-SW								
		2	7		x		x					NE-SW								
17/3	3	1	10		x		x				1	NE-SW				x			?	
		2	4						x		1	NE-SW		C						
		3	5		x						1	NE-SW								
17/4	1	1	5	x							1	NE-SW								
KUJ-22/1	6	1	15		x		x					E-W				x				
		2	2		x		x					E-W								
		3	8		x		x					E-W								
		4	18		x		x					N-S								
		5	40		x		x					E-W								
		6	?		x		x													
22/2	1	1	10	x		x					1	SE-NW					x			
22/3	1	1	6		x						1	E-W								
KUJ-29	2	1	7		x		x					N-S								
		2	10		x		x					E-W								
KUJ-30	3	1	4		x		x					N-S								
		2	9		x		x					N-S				x		x		
		3	12		x		x					N-S				x				
KUJ-32/1	1	1	5		x		x				1	E-W	M	65		x	x			
32/2	4	1	5		x		x				2	E-W	M	A						
													F	16		x				
		2	18		x		x					E-W								
		3	20		x		x					E-W								
		4	40		x		x					E-W				x				
32/3	1	1	3		x		x				1	E-W	M	25					x	
32/4	5	1	7		x						1	E-W				x	x			x
		2	12		x							E-W								
		3	15		x		x				1	E-W	M	A						
		4	25		x							E-W								
		5	47		x							E-W				x				
32/5	1	1	6	x			x					E-W								
32/6	1	1	6		x		x?				1	E-W	M	65					x	
32/7	5	1	5		x		x													
		2	5		x		x													
		3			x		x													
		4			x		x													
		5			x		x													
32/8	3	1	14		x		x		x			NE-SW							x	
		2	7		x		x				1	NE-SW	F	18		x			x	
		3	7		x		x		x		1	E-W	M	40?		x			x	
32/9	1	1			x				x?		1	N-S	F	A		x	x			
KUJ-40/2	5	1	4		x		x				1	E-W		A						
		2	7		x						1	E-W		A						
		3	8		x		x				5	E-W		A-C						
		4	11		x		x				1	N-S		A						
		5	6		x		x				1	NE-SW		A						
KUJ-45/1	2	1	SE		x		x?					SE-NW								
		2	10		x							E-W								
45/2	1	1	11		x						1	SE-NW	M	50				x		
45/3	2	1	2		x		x				1	SE-NW		A		x				?
		2	6		x		x				1	SE-NW		A						
45/4	1	1			x						1	SE-NW	M	30						
45/5	1	1	12			x					2	SE-NW	M	35		x				
													M	50				x		
KUJ-47/1	1	1	11		x		x					NE-SW								
KUJ-48	2	1			x		x					E-W								
		2			x		x													

Table 10 Details of grave construction and burial ritual in W. Pomerania, Mecklenburg and Lower Saxony  
(OLS - old land surface)

BARROW	TOTAL OF GRAVES		INDIV. GRAVE	DIST. FROM E END	LOCATION		CONSTRUCTION					NO. OF SKELETONS	ORIENT. OF SKELET. OR GRAVE	SEX	AGE	GRAVE-GOODS					RITUAL DEPOSITS		
					OLS	PIT	STONE CONSTR.	PAVEMENT	COFFIN	HOUSE	CIST					POTTERY	FLINT	STONE	AMBER	COPPER		BONE	
WPOM-3	1	1			x		?										x	x	x				
WPOM-15/1	1	1			x		x						E-W										
WPOM-16/1	1	1				x																	
16/2	1	1			x			x															
WPOM-25/15	2	1				x		x					E-W										
	2	2				x		x					E-W										
25/16	2	1				x		x					E-W										
	2	2				x		x					N-S										
25/17	5	1				x		x															
	2	2				?																	
	3	3				?																	
	4	4			x		x																
	5	5			x		x																
25/18	1	1				x								F	20		x					x	
25/20	1	1			x			x															
25/28	1	1	6			x		x									x						
25/29	1	1										1?											
WPOM-50	1	1	E		x								E-W?				x						
MBG-8	1	1				x		x					E-W				x	x					
MBG-15	1	1	7		x							1								x?			
MBG-17	1?	1?																x					
MBG-18/2	1	1			x			x					N-S		A								
MBG-19	1	1			x			x															
MBG-22	1	1				x		x				x?	SE-NW				x		x				
MBG-24	1	1															x	x					
MBG-25	7	1	13			x		x					E-W				x						
	2	20				x		x					E-W					x					
	3	22				x							E-W				x	x					
	4	34				x							SE-NW				x	x					
	5	37				x			x?				E-W				x						
	6	41				x							E-W				x	x					
	7	59				x							?										
MBG-28	3	1						x				x	SE-NW										
	2	2									x	3	SE-NW		C		x						
	3	3						x				1?	?					x					
LSAX-2	1	1			x		x					1?	N-S		F?		x	x					
LSAX-6/2	1	1			x			x					N-S										
LSAX-8/3	3	1	3			x						1?					x						
	2	16				x							N-S										
	3	17											N-S										
8/5	1	1	34			x							E-W										
8/6	1	1	13			x							E-W										
LSAX-9	1	1			x							1					x?						

Table 11 Details of grave construction and burial ritual in Denmark (OLS - old land surface)

BARROW	INDIV. GRAVE TOTAL OF GRAVES		DIST. FROM E END	CONSTRUCTION					NO. OF SKELETONS	ORIENT. OF SKELET. OR GRAVE	AGE SEX	GRAVE-GOODS					RITUAL DEPOSITS		
				STONE CONSTR.	PAVEMENT	COFFIN	HOUSE	CIST				PIT	OLDS	POTTERY	FLINT	STONE		AMBER	COPPER
DNK-1	1	1																	
DNK-2/1	2	1	24																
2/2	2	2	24																
	2	1							x?										
	2	2	16																
DNK-3	1	1																	
DNK-4	2	1	14	x					1		M?	13							
	2	2	29						4										
DNK-5	1	1																	
DNK-6	1	1		x															
DNK-7	2	1	10	x															
	2	2	18	x															
DNK-8	2	1	20	x															
	2	2	7	x															
DNK-9	1	1																	
DNK-11	2	1																	
	2	2																	
DNK-12/1	3	1	6																
	2	2	13	x															
	3	3	24																
12/2	5	1	2																
	2	2	8	x															
	3	3	11																
	4	4	17																
	5	5	20																
DNK-13	2	1	10																
	2	2	16																
DNK-14	2	1	7	x															
	2	2	18	x															
DNK-15	1	1	5																
DNK-16	3	1	5	x															
	2	2	12	x															
	3	3	19	x															
DNK-17	1	1	10	x															
DNK-18/1	1	1	13																
DNK-20	1	1																	
DNK-21	4	1		x															
	2	2		x															
	3	3		x															
	4	4		x															
DNK-22	2	1	9	x															
	2	2	28	x															
DNK-23	1	1		x															

for 42,3 % and 28,9 % of known examples respectively, while other areas are very under-represented with only 5,4 % of the graves in Lower Saxony. In view of these figures and of the uneven availability of evidence it cannot be overemphasised that the ensuing discussion is of necessity based on fragmentary evidence.

Secondly, quite a number of graves, especially in Denmark and Western Pomerania, are so far known only from interim reports and relevant information is not always available in sufficient detail. Therefore a few attributions may be somewhat arbitrary.

Because of the total number of graves involved, the examples chosen for discussion here include only those which were felt to contribute substantially towards a better understanding of grave forms. Detailed description of all others will be found in the catalogue (Appendix 2). It also seems justified to discuss in more detail the examples which are less commonly known and not available to English-speaking readers (i.e. from Kujavia, Western Pomerania, Mecklenburg and Lower Saxony) and then to compare them with grave forms which are known from the Danish earthen long barrows, the latter having been studied in detail recently (Madsen 1972, 1979).

## 9.2 DESCRIPTION OF GRAVES

One criterion for distinction between the graves is their vertical position within the earthen long barrow. Thus it is possible to distinguish between the graves constructed directly upon the old land surface (surface graves) and those placed in dug-out pits (pit graves). This difference of location may be observed in all regions of the earthen long barrow province (Tables 9 - 11). In the case of some graves the information available, however, was not sufficient to allow positive identification. Nevertheless a division into surface graves and pit graves seems acceptable.

On the basis of the data currently available the surface graves seem to be slightly less common than the pit graves, accounting for 42,3 % and 46,3 % of the total number of graves respectively. Whether this difference is real or merely reflects the current state of knowledge cannot be determined. It seems reasonable to accept that



a pit grave has a better chance of survival, if not recognition, than a surface grave (especially in the case of simple depositions which seemingly did not involve any form of protection around the body of the deceased) and, if this is the case, the numerical difference between the surface and pit graves may simply reflect different preservation factors in various monuments. On the other hand, future excavations of a few well-preserved monuments may easily alter these proportions.

The significance of the division between the surface and pit graves is however not yet understood. There is no detectable chronological difference between the two types; both appear in early and late monuments and both occur commonly in concentrations of barrows (for example at Sarnowo, KUJ-32; Wietrzychowice, KUJ-45; Łupawa, WPOM-25). Moreover, both types may also be found within the confines of a single barrow (for example at Sarnowo, KUJ-32/2, 32/4; Obałki, KUJ-22/1; Łupawa, WPOM-25/17 or Bygholm Nørreremark, DNK-4), and both types are represented in simple as well as in complex grave constructions (Tables 9 - 11). In view of this evidence it is difficult to explain this dichotomy save by suggesting that it may possibly reflect seasonal activities - pit-graves in the summer and surface-graves in the winter months. From the point of view of the use of the earthen long barrow enclosures (various activities stretching over a considerable, although unspecified, period of time) this interpretation is acceptable, but no evidence in support of it exists at present.

Let us now consider the structural arrangement of the graves as a criterion for distinction different from that discussed above. The simplest form of grave is represented by the deposition of a body, either directly on the surface or in a pit, apparently without any protection save for that of the mound which finally covered the whole barrow. These are most commonly found in Kujavia, although a few examples are also known from other regions (Tables 9 - 11).

Identification of this kind of grave is only possible either when skeletal remains have survived, or when a pit can definitely be recognised. In the case of surface graves with skeletons, examples

are known from Mecklenburg (Karft, MBG-15) and Kujavia (Gaj, KUJ-7/1; grave 1 and 2; Fig. 93; Leśniczówka, KUJ-17/4, grave 1 and Wietrzychowice, KUJ-45/2, grave 1). Where no skeletal remains have survived it is occasionally possible to infer the existence of a grave from a concentration of finds interpreted as grave-goods (for instance at Wartin, WPOM-50, grave 1 or Rustrup, DNK-14, grave 1). Records of simple pit-graves with skeletal remains have so far been noted only in Kujavia (for example at Leśniczówka, KUJ-17/1, grave 1; Obałki, KUJ-22/3, grave 1 or Sarnowo, KUJ-32/6, grave 1, where the stone pavement was apparently beyond the pit, Chmielewski 1952, 72), while pits found in long barrows in other areas are considered to represent graves on the basis of a combination of factors such as location (i.e. within the barrow), shape and size, and grave-goods deposition (for example at Łupawa, WPOM-25/18, grave 1 or Teglevaerksgården, DNK-20).

Whether such graves do indeed represent simple depositions, without any constructions around them, is however open to discussion. It has already been noted that timber elements (either on their own or in combination with stone constructions) may have been a regular feature in other structures found within the earthen long barrows (see chapter 8). The possible existence of timber components in grave structures will therefore be given serious consideration in the latter part of this section.

The evidence concerning pit-graves is equally uninformative, as there are no traces of post-holes or other features associated with them. There are however a number of examples which reveal very regular outlines. The pit-graves from Sarnowo (KUJ-32/6, grave 1) and Leśniczówka (KUJ-17/3, grave 3) were clearly outlined on the surface and had well-defined corners and straight edges for most of their depth (Fig. 93 and 50). Occasionally, as at Łupawa (WPOM-25/28, grave 1), the rectangular outline of a pit may be intensified by dark staining along the edges, clearly visible against the light-coloured sand of the old land surface (Jankowska 1980, 101). Only two simple graves are known at Stralendorf (MBG-25, grave 3 and 4) where large oval pits with straight long sides and rounded ends

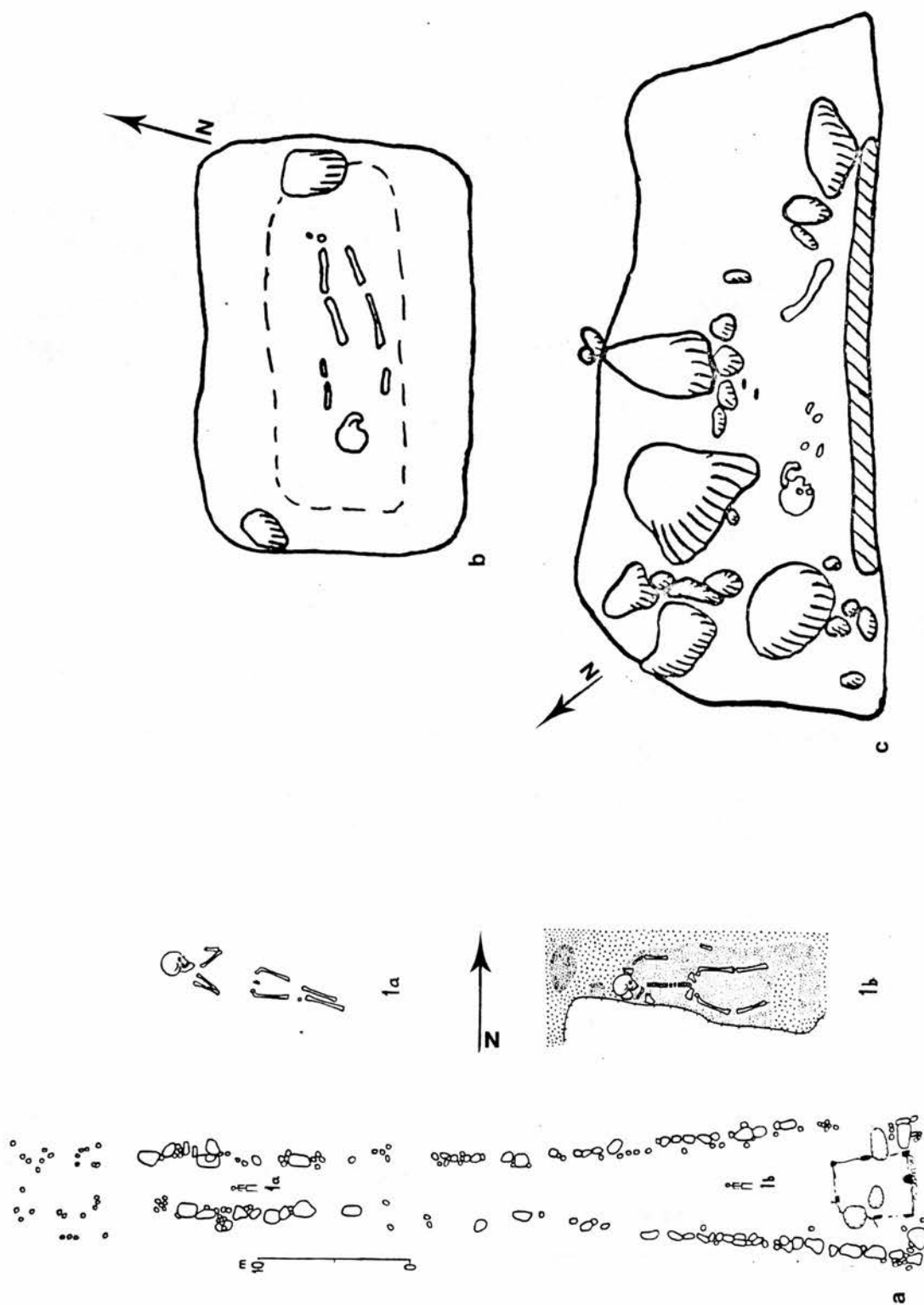


Fig. 93 Kujavian long barrow graves: a) Kuj-7/1, graves 1 (1b) and 2 (1a); b) Kuj-32/6, grave 1; c) Kuj-22/2, grave 1 (after Chmielewski 1952)

traversed the whole width of the barrow at about 22 and 34m from the southern end (Schuldt 1965; Fig. 57).

Interpretation of the pits from the Sachsenwald long barrows is equally difficult. Two rectangular pits were uncovered in in one barrow (LSAX-8/3, graves 2 and 3) and a similarly shaped pit was found towards the north-eastern end of another barrow (LSAX-8/5, grave 1). The outlines of all three pits were very regular, with grave no. 3 being trough-shaped in section (Sprockhoff 1954, 3).

Having discussed a representative sample of graves which, upon excavation, did not reveal traces of construction, we will now consider graves which are characterised by the existence of permanent structures. Apart from the basic distinction between surface- and pit-graves, these may be further divided into graves which have evidence of stone built-enclosures\* surrounding the whole or part of the grave, and those which are located beneath (or above?) stone pavements. The stone pavement arrangements may appear in addition to or instead of the stone-built framework (Tables 9 - 11).

The long barrows of Kujavia reveal a substantial number of graves surrounded by a stone-built enclosure. An interesting construction was noted at Obałki (KUJ-22/2). Here, the centrally placed grave (no. 1) was surrounded by a frame constructed of stone and clay (Fig. 93). The eastern, western and northern sides were delimited by a stone wall, and corresponding protection on the southern side was offered in the form of a clay wall (Chmielewski 1952, 84). The stone wall segments seem to have been substantially displaced but the clay wall is very straight, although unfortunately its height is not known. At Obałki (KUJ-22/1, grave 5) a rectangular, stone enclosure of about 2,7 x 1,7m was found 40m to the west of the broad end of the barrow. It was originally thought to represent the remains of a stone pavement (Chmielewski 1952, 83) and therefore may have

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\* Unless stated otherwise, in this section the phrase 'enclosure' refers to a stone construction surrounding the actual grave.

consisted of several courses; but no such details are available from the plan (Fig. 51). Rectangular enclosures of similar form are also known from Rogalki (KUJ-28) and Sarnowo (KUJ-32/2, grave 4 and 32/4, grave 3), the latter being constructed against the southern wall of the kerb of the barrow.

Among the Western Pomeranian long barrows, a stone-built enclosure from Karsko (WPOM-15/1) may be mentioned in this context. This structure was inferred by the excavator on the basis of the layout of large stones, which stood out from the smaller field stones of the massive stone mantle covering an entire compartment of this barrow (Wiślański *pers. comm.*; Fig. 94). Again the regularity of shape and straight interior walls should be noted, but the identification of this enclosure as the area of burial rests upon its location as no unequivocal evidence was found.

Similar arrangements have been observed in association with pit-graves. At Sarnowo (KUJ-32/2) two graves (nos. 2 and 3) were surrounded by single-layered stone enclosures. In both cases these were found to rest at the upper edge of the pits, while the pits themselves extended down to 40 cm below the old land surface (Chmielewski 1952, 59; Fig. 94). At Leśniczówka (KUJ-17/3, grave 1) a single row of stones was noted to the left of the skeleton. From the available photograph it appears that the row was not at the very bottom of the pit but slightly above it (Jażdżewski 1936a, Fig. 1083). The relationship between the stone row and the edge of the pit is not certain, but the general plan of the barrow suggests that the stone row was some distance towards the interior of the pit (Fig. 50).

Several barrows in Mecklenburg reveal similar arrangements (Table 10). The shallow pit-grave at Gnewitz (MBG-8; Fig. 95) was edged by a 2,5 x 1,5m enclosure with courses of stones below and above the old land surface (Schuldt 1966a; 1966c, 21). An identical but heavier construction was noted at Rothenmoor (MBG-22; Fig. 95), with the sides of the pit fully lined with stones along the whole depth (Schuldt 1967, comments with ref. to figures 2 - 5), and a similar but less well-preserved structure was also noted in the

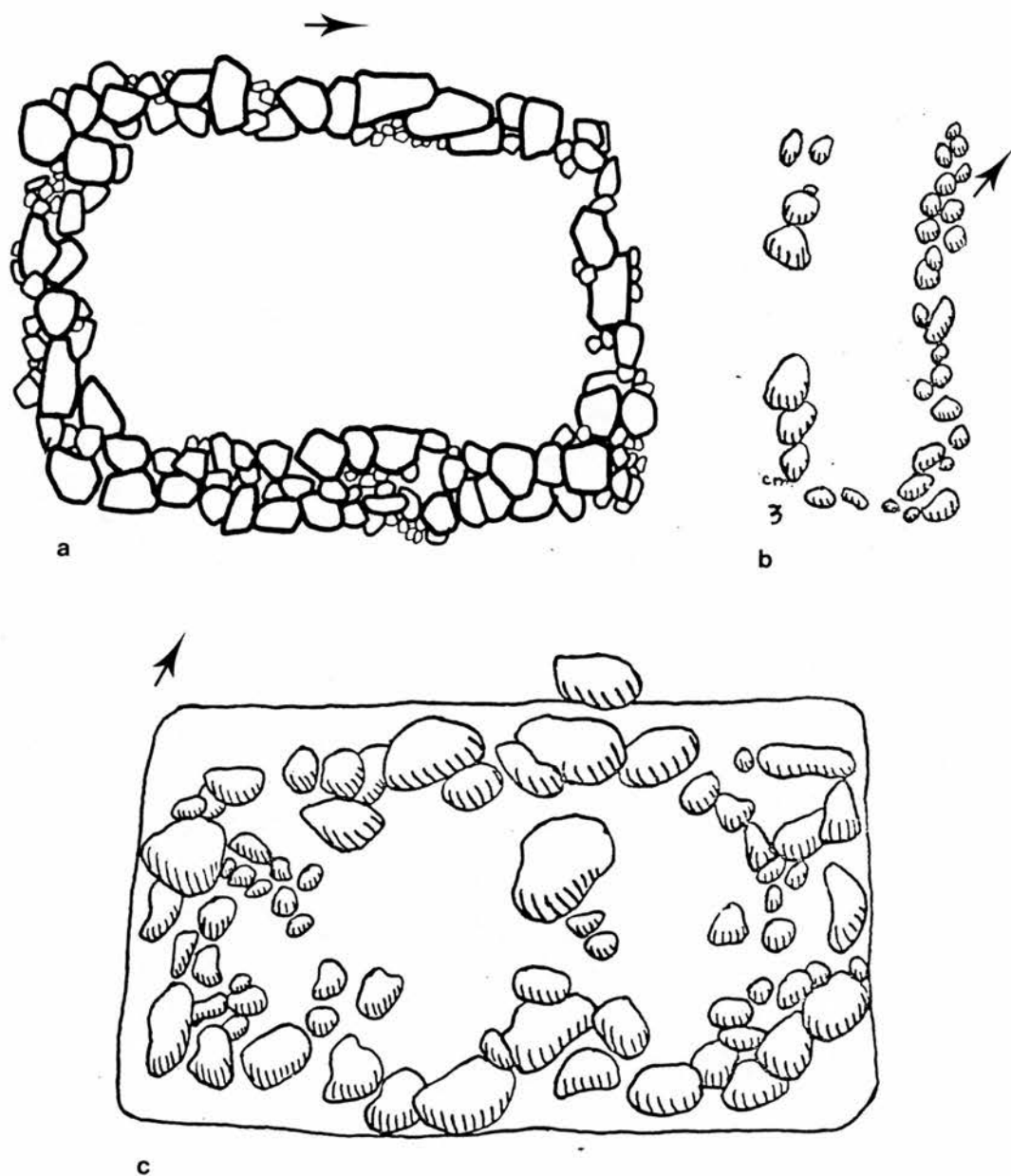


Fig. 94 Graves of long barrows at Karsko (WPOM-15/1, a) and Sarnowo (KUJ-32/2, graves 2 (c) and 3 (b); after Wiślański - unpublished and Chmielewski 1952)

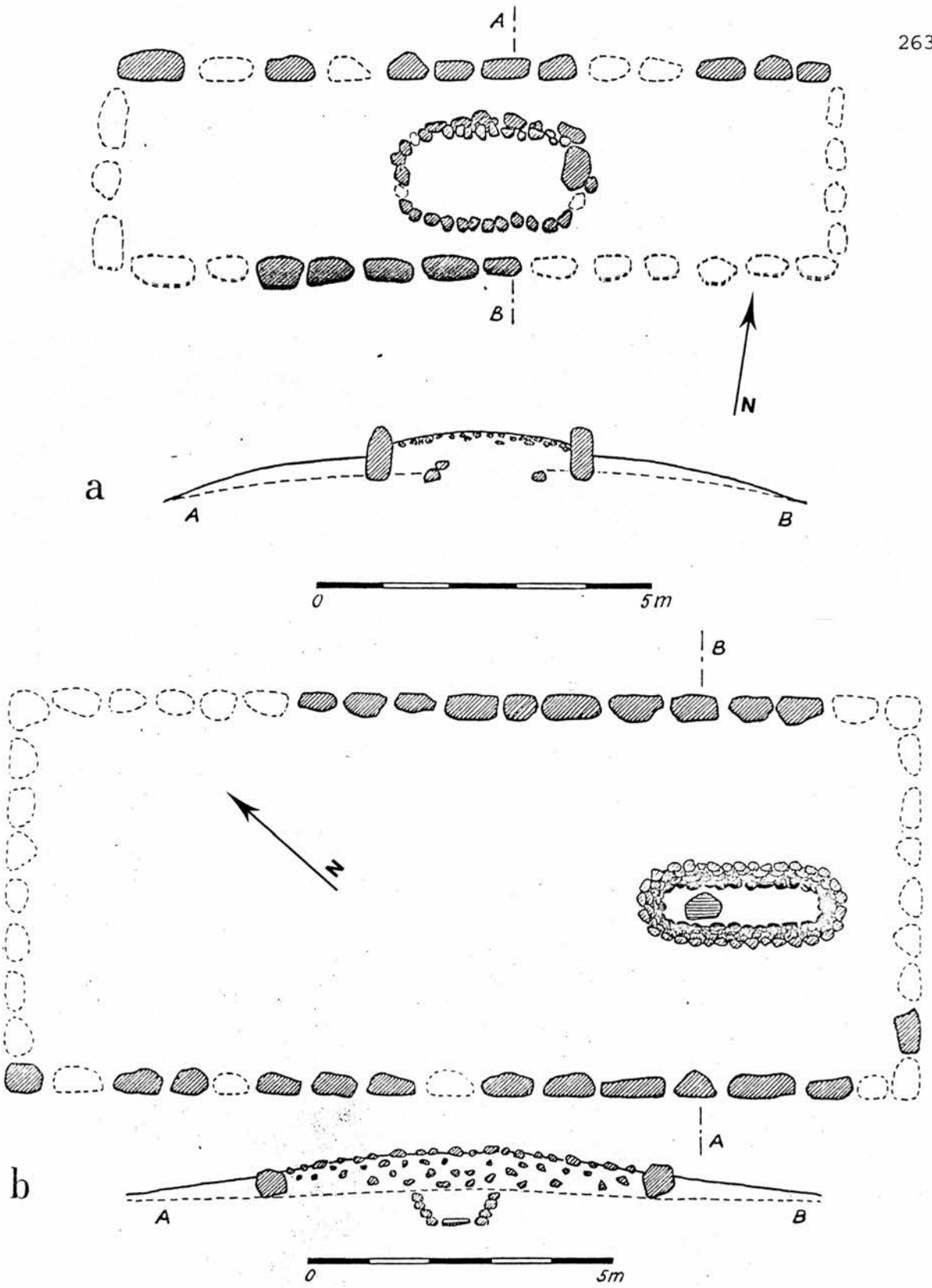


Fig. 95 Barrows at Gnewitz (MBG-8) and Rothenmoor (MNB-22, after Schuldt 1972)



barrow at Stralendorf (MBG-25, grave 2; Schuldt 1965, 15). In all three instances the fill of the pits was relatively free of stones. Of the stone enclosure at Pöglitz (MBG-19), which was discovered in the mid-19th century, we only know that it was located in the second compartment from the eastern end and measured about 1,6 x 0,74|0,57m inside (Sprockhoff 1967, 76).

The long barrows of Lower Saxony offer very little evidence of grave constructions. In one of the Sachsenwald barrows (LSAX-8/3) finds of charcoal and burnt clay in a pit suggest some sort of timber construction and in another barrow (LSAX-8/6, grave 1) the bottom of a pit 2 x 0,6m in area and 0,5m deep was very even and laid out with a 2cm layer of stones (Sprockhoff 1954, 6).

Graves found in association with stone pavements are common in Kujavia, but less so in Mecklenburg and Lower Saxony (Tables 9 and 10). At Sarnowo (KUJ-32/1) the centrally placed grave (no. 1) was covered by an oval, 5 x 2,7m pavement which had a central rectangular area of 2 x 0,9m free of stones (Chmielewski 1952, 54, Fig. 16a). Underneath this pavement, which was 0,4m thick, was found what Chmielewski called 'a proper rectangular enclosure', which corresponded exactly in location, shape and size to the stone-free space above (*Ibid.* Fig. 16b). This enclosure, built of stones between 0,2 and 0,5m in diameter, was in a 0,3m deep pit at the bottom of which rested an extended human skeleton (Fig. 96). Identical arrangements are also known from other barrows at Sarnowo (KUJ-32/2, grave 1, 32/3, grave 1) and Zberzyn (KUJ-47, grave 1), although at Sarnowo 32/2 no traces of enclosure under the pavement have been identified.

Interesting constructions were also recorded in three other graves at Sarnowo (KUJ-32/8, graves 1, 2 and 3). The central grave pit (no. 1) was covered with a stone pavement 4,8 x 3,2m in size (Gabałówna 1969b, 44-45). The pit itself was perfectly regular in outline, slightly narrowing towards the bottom where it measured 2,4 x 0,9m; it was approximately 1,2m deep. At the bottom of this pit a 17cm thick layer of black-grey soil was mixed with pieces of daub. The rest of the pit was filled with stones which rose above the old land surface by up to 75cm in places. It may be observed in the photograph

of this stone pavement (*Ibid.* Fig. 1) as well as in a somewhat schematic cross-section of the grave (Fig. 79) that there was a depression in the middle of the pavement and that the stones filling the grave pit were not tightly packed but mixed with soil.

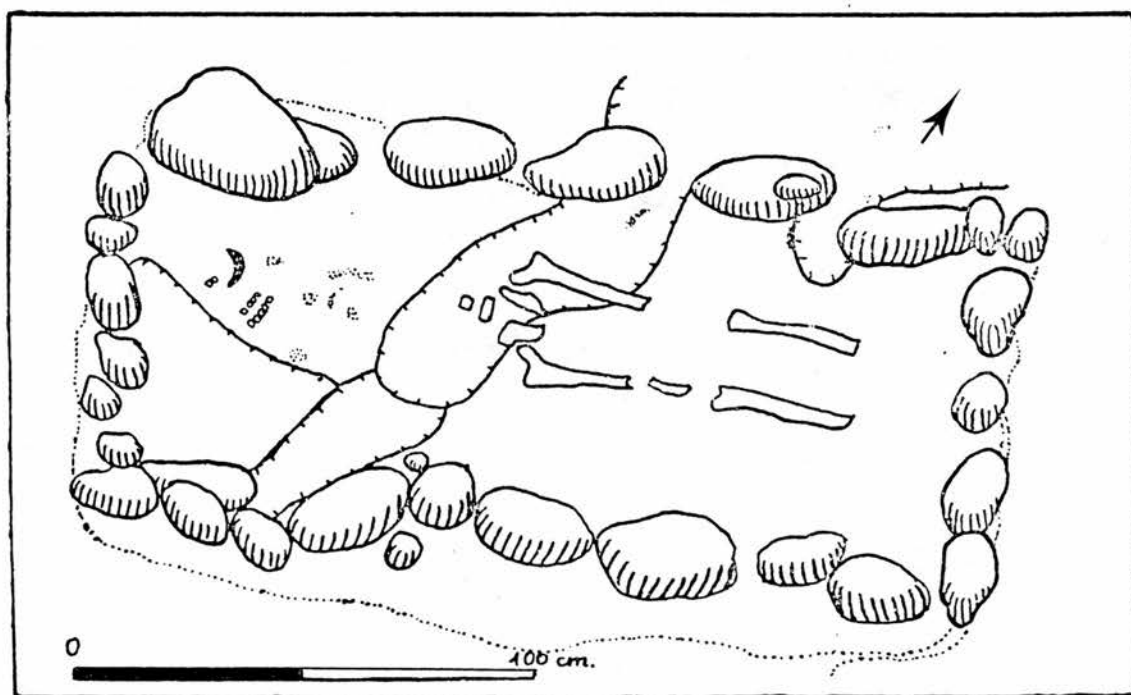


Fig. 96 Sarnowo (KUJ-32/1), showing the rectangular enclosure of grave no.1

The other two graves (nos. 2 and 3) are no less interesting. Both were covered with a layer of black peaty soil (in the shape of a circular mound with *Anodon* and snail shells). Below this was a single, nearly circular stone pavement about 4m in diameter beneath which two individual grave pits were found - one pit 1,7 x 0,65-0,70m, the other 2,1 x 0,60 0,75m in size, both about 0,4m deep (Gabałówna 1969b, 49; Wiklak 1982, 41). Both graves in the lower part were edged with a band of white chalky substance several centimetres wide, forming in each case a perfect rectangle (Fig. 97). A similar chalky substance was found at the bottom of the pits although it was not

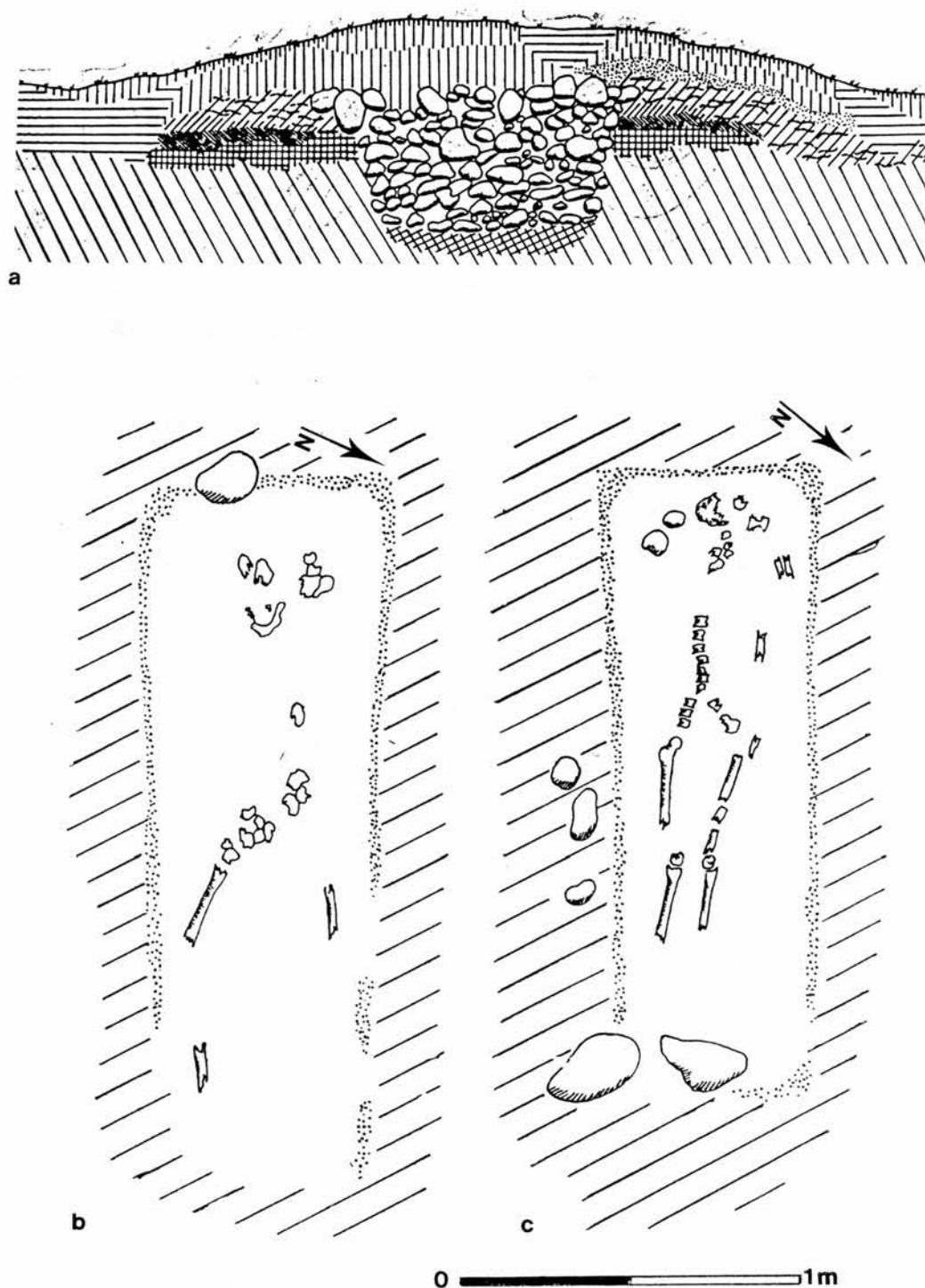


Fig. 97. Graves from the Sarnowo barrow (KUJ-32/8): a) cross-section N-S of the central grave, no. 1; b) grave no. 2 and c) grave no. 3; the latter graves indicate possible use of coffins (after Wiklak 1982)

evenly spread.

One further interesting arrangement from Kujavia remains to be mentioned - that discovered by Jażdżewski at Wietrzychowice (KUJ-45/3; Jazdzewski 1936b). Here two separate stone enclosures ('stone boxes')

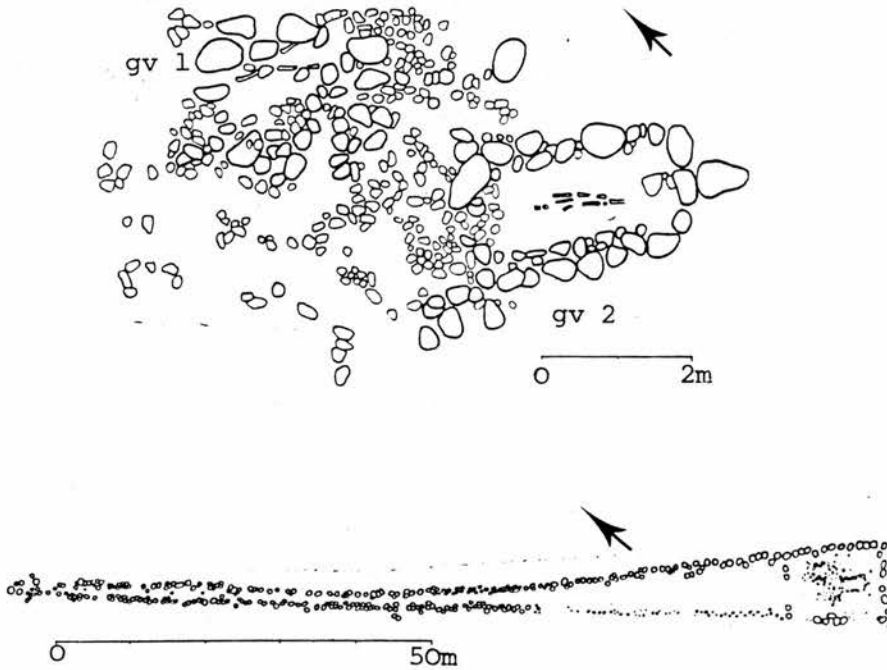


Fig. 98 Wietrzychowice (KUJ-45/3), showing the rectangular enclosures of graves nos.1 and 2 and their position in the barrow

were discovered in the eastern part of the barrow (Fig. 98). The central structure, 3,6 x 2m in size, was built as a rectangular framework of stones between 0,3 and 0,6m in diameter. The entrance to the interior appears to have been in the shorter SW wall. The skeleton was covered with a row of stones. The second enclosure, to the north of the central one, was slightly smaller, 2,5 x 1,8m in size, and appears to have been less well preserved. The arrangement of stones along the S wall suggests that a short passage may have led to the interior (note that this stone arrangement does not appear in the photograph, Fig. 99). A scatter of small stones around both of the



Fig. 99 Wietrzychowice (KUJ-54/3), showing the rectangular enclosures at the eastern end of the barrow (photo Jażdżewski)

structures is difficult to interpret but may represent paving around the graves or a collapsed upper segment of the enclosures.

Among the Mecklenburg long barrows, with the exception of Stralendorf (MBG-25) the evidence for stone pavements is not derived from modern excavations but dates back to the previous century's investigations and thus cannot be accurately assessed. Nevertheless, arrangements of stone slabs have been noted at Karft (MBG-15), Helm (MBG-14) and Lübow (MBG-17), the latter associated with charcoal and ashes. At Wollschow (MBG-28) a centrally placed stone packing is said to have contained a 'burnt skeleton' and a flint knife (Nilius 1971, 16-17).

Grave no. 1 at Stralendorf (Fig. 57) consisted of a massive packing of stones, 3 x 2m in size, which reached 1m down into the old

land surface. Schuldt comments that the stones close to the edges of the pit were tightly packed, while those in the middle were relatively loose and gave the impression of having fallen into a hollow (Schuldt 1965, 13). A similar arrangement at Stralendorf can also be noted in sector 'r' of the barrow but there is no mention of it in the report.

Only two examples of burial associated with a stone pavement are known from the area of Lower Saxony. At Bavendorf (LSAX-2), which was excavated by Lienau in 1914, a paving 6m long and 1m wide was found in the middle of the mound (Dehnke 1940, 66) and at one end of this pavement, within a circular arrangement of six stones, remains of a 'burnt human skeleton' were found. At Oldendorf (LSAX-6) in the western part of the mound, a stone pavement 4,8 x 3,6m in size covered a faint rectangular staining which could represent the remains of a timber grave structure (Laux 1971, 195).

Many more graves could be discussed in detail but it is felt that the above description, while avoiding unnecessary repetition, offers a representative review of the kinds of feature which commonly characterise graves within the earthen long barrows.

In the introduction to this section it was already noted that the study of the graves encountered within the earthen long barrows has never been given the necessary consideration in most of the regions. Little attempt has been made to understand the graves in Lower Saxony, Mecklenburg or Western Pomerania (although the latter region has suffered not so much from lack of interest as from paucity of evidence). Chmielewski gave some consideration to grave structures in Kujavia, but his interpretation centred around the existence or absence of stone features (Chmielewski 1952, 17-18) and he did not concern himself with the layout of the stone arrangements which might assist recognition of the more complex grave structures.

Having outlined the main evidence on the construction of graves from the regions of Kujavia, Western Pomerania, Mecklenburg and Lower Saxony, it is now necessary to compare this evidence with the grave forms from the Danish earthen long barrows, which have recently been surveyed in considerable detail (Madsen 1975, 1979). The importance of these studies for the understanding of the monu-



ments under discussion is manifold. They confirm the variety of graves which are found within the earthen long barrow enclosures and, through lucid interpretation of the evidence, contribute toward a rational approach to the study of structural remains. The recognition in the Danish graves of complex constructions involving stone and timber components not only sheds new light on the graves themselves, but directly enhances our understanding of other aspects of development within the *TRB* culture.

Since the grave structures are known in detail (Kjaerum 1977; Madsen 1975, 1979) only a reminder of the main characteristics seems necessary. Among the better documented grave forms is the Konens Høj type (Stürup, 1966) representing a tent-like arrangement of stone supports and timber framework resting against a central ridge. The Troelstrup type represents a rectangular, box-like chamber built in stone and timber where the ratio between the two components may vary, and is recognised in several related forms (for example the Skibshøj and Lindebjerg variants, Jørgensen 1977, Liversage 1980, Madsen 1979). Both the Konens Høj and Troelstrup types of grave were frequently, although not invariably, deliberately destroyed by fire. Wooden coffins are also known and a number of other grave forms are still only fragmentarily recognised (Madsen 1979, 311).

It is not proposed here to transfer the Danish nomenclature to the grave forms found in other regions, but the comparison of Danish material with the evidence outlined above reveals a number of similarities as well as differences. First of all there is no evidence from Northern Europe at present for a tent-like Konens Høj grave outside Denmark. No evidence of post-holes nor of stone arrangements which would suggest such an interpretation is known from any of the graves. This in itself does not suggest that the Konens Høj type was necessarily confined to the Jutland Peninsula, since it is perfectly possible that traces of post-holes have not survived or were not recognised in excavation. Madsen suggests that this form of grave was self-supporting and did not require a heavy stone framework, and that it may often be mistaken for a simple pit-grave (Madsen 1979, 309). Such seemingly simple pit-graves are very common in other areas of



the earthen long barrow distribution (Tables 9 and 10) and some of them may possibly reflect the vestigial remains of a form similar to the Konens Høj type (although this type itself need not necessarily represent a tent-like form, as the two D-shaped posts could reflect a number of different arrangements).

On the other hand, comparison of various structures grouped by Madsen under the Troelstrup type (Madsen 1979, 309) - together with the evidence from the rest of the North European Plain - does suggest that a timber-and-stone built box grave was relatively common in all areas. The classic example of this type is, of course, the misinterpreted central grave from Sarnowo (KUJ-32/1, grave 1), which matches very well the arrangements at Troelstrup (Kjaerum 1977, 20, Fig. 2 and 3; Madsen 1979, 303). The only difference seems to be in the lack of an entrance passage such as was noted at the latter site. The stone pavement and the 'proper rectangular enclosure' are part of the same structure - a massive stone walling surrounding the stone-free interior space which represents nothing other than the location of a wooden chamber. The 'proper rectangular enclosure' forms the lowest course of the walls, set at the sides of the pit containing the wooden chamber, with subsequent stone courses built above it, along all sides and right up to the top. The inner edges of the stone pavement form virtually straight lines and perfect corners (Chmielewski 1952, Fig. 16a) which would have been impossible to retain over a minimum 40cm depth unless the stones were resting against vertical walls. The depth of the pit was about 30cm; the wooden chamber was therefore at least 70cm in height - possibly more - very probably with the top protruding above the upper layer of the pavement as no stony fill was observed in the interior.

Similar arrangements, of a wooden box-like chamber set within a framework of stones, may be suggested at Sarnowo barrows 32/2 (grave no. 1) and 32/3 (grave no. 1) and possibly at Zberzyn (KUJ-47) although at the latter site the pavement has been badly damaged in the process of mound destruction (Gorczyca 1981, Fig. 11). The features encountered at Gnewitz (MBG-8; Fig. 95), Rothenmoor (MBG-22; Fig. 95) and Stralendorf (MBG-25, graves no. 1 and 2) suggest precisely

the same construction. It is possible that in some instances the wooden roof was additionally covered by a layer of stones. Two observations support such an interpretation: the pit fill often contains a loose mixture of stones and soil (for example at Stralendorf, grave no.1) and depressions are frequently noted in the middle of the stone pavements - both features that could be admirably explained by the collapse of a wooden roof below.

The interpretation of rectangular enclosures associated with surface- and pit-graves is more difficult, since the only evidence available is the arrangement of the stones themselves. In the case of enclosures built on the surface it may be observed that they all possess an already familiar, perfectly rectangular outline with straight walls and well-defined corners. This is particularly clear at Wietrzychowice (KUJ-45/3, graves 1 and 2; Fig. 98 and 99) and at Karsko (WPOM-15/1, grave 1; Fig. 94) but less so at Obałki (KUJ-22/2, grave 2). The latter structure does however offer an important clue in the presence of a straight-edged clay wall. The wall seems to have suffered nothing from the lateral movement (note that the stones are displaced, Fig. 93) and the only possible explanation of this feature is that the clay/stone enclosure surrounded a timber-built chamber of which, upon collapse resulting from decay, some of the stones were moved inwards while the clay wall (being less prone to lateral movement) remained in the original position.

With the stone enclosures from Karsko and Wietrzychowice it is difficult to accept - if we were to assume that the stone elements were the only ones used in the construction - that they could have retained their original position and regularity during the process of mound construction and under the considerable weight of the completed mounds. Indeed this would be all the more remarkable in the case of the Karsko enclosure, where the original outline seems to have been retained in spite of the massive cairn cover. The only reasonable explanation of this feature must surely be that the enclosures surrounded wooden chambers, with the process of decay being of long duration, and that the final collapse occurred long after the mounds were raised. Indeed the profile along the main axis

at Wietrzychowice (Chmielewski 1952, Fig. 61-2) suggests a lowering of the mound precisely above the grave constructions.

The stone enclosures associated with pit-graves offer additional evidence for the acceptance of timber structures. With the probable exception of Leśniczówka (KUJ-17/3, grave 1), the stone framework is always situated at the upper lip of the pit and not at the bottom. This is not seen in plans (Chmielewski 1952, various figures) but is made perfectly clear from Chmielewski's descriptions of such pit-graves. Two interpretations are therefore possible: either that the stone framework was laid down after the grave pit had been filled with soil, or that it rested against another structure which had been erected inside the pit. This type of arrangement is known from Bygholm Nørreremark (DNK-4, grave 2) where a large wooden coffin had been placed in a dug-out pit, with wooden planks held in place by stones (Rønne 1979), and also from Stengade (DNK-18/2, grave 1; Skaarup 1975) - the difference being that in these cases the stones rested inside the pits.

Taking into consideration both the stone enclosures and the rectangular outline, the suggestion of a wooden coffin placed in a pit is an attractive proposition. Indeed there are three graves at the Sarnowo complex which support this suggestion. At Sarnowo 32/9 (grave 1) the existence of a wooden coffin was inferred from a regularly shaped grey colouration surrounding the skeleton (Wiklak 1975a, 48; Fig. 100). The rectangular frames of white substance outlining the edges of pit-graves at Sarnowo 32/8 (graves 2 and 3; Fig. 97) can in all likelihood be interpreted as shadows of coffins, possibly painted white. White stained skeletons have been noted at several Kujavian long barrows. At Sarnowo (32/6, grave 1) there was an additional shading (not mentioned in the report but recognisable from the photograph - Chmielewski 1952, Fig. 41) around the white-stained body which may represent either some sort of wrapping of the body or, indeed, the scanty remains of a wooden coffin. White staining around the skeletons has always been assumed to indicate a custom of sprinkling bodies with a chalky substance (see below). In view of the finds from Sarnowo (32/9) it could well represent, at least in some

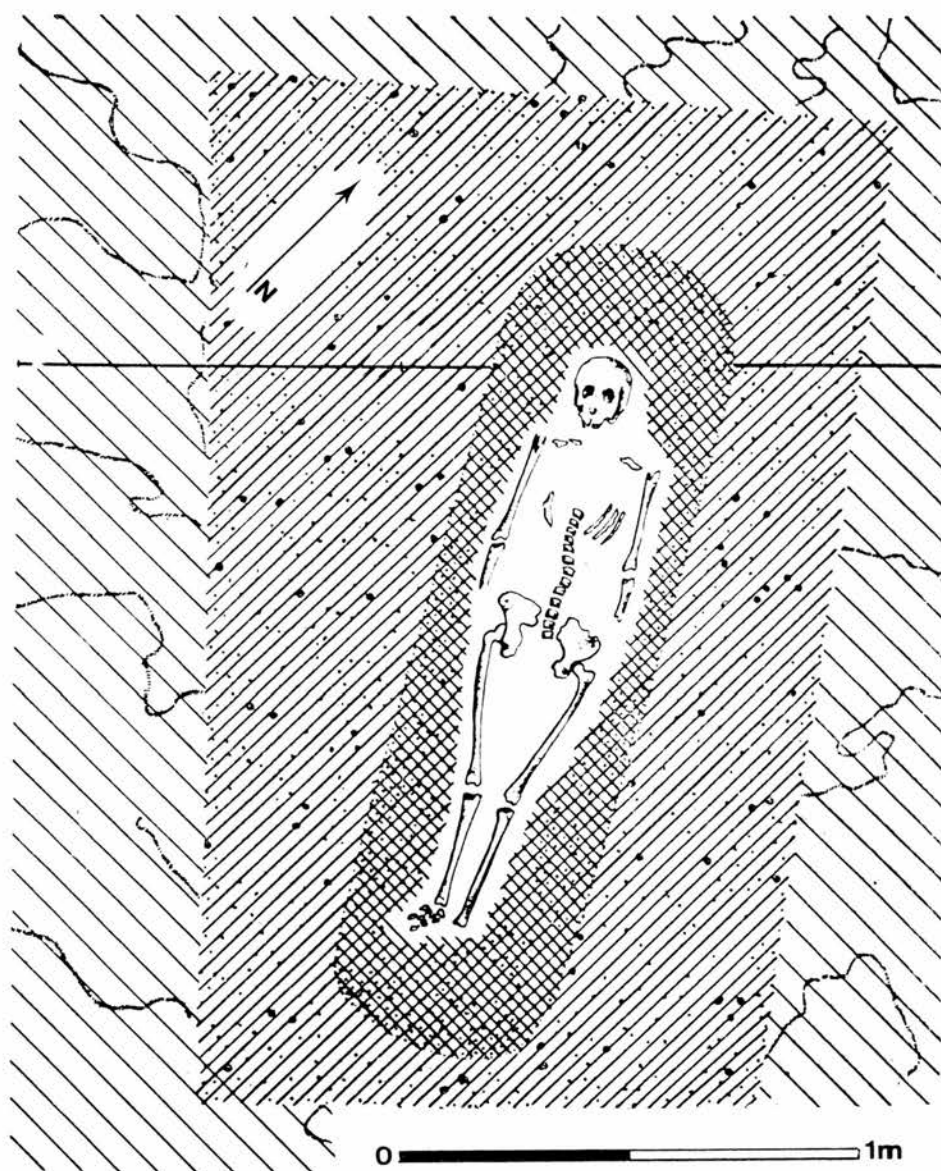


Fig. 100 Grave from the long barrow at Sarnowo (KUJ-32/9, grave 1) showing dark staining interpreted as remains of a coffin (after Wiklak 1975a)

instances, the remains of wooden coffins which themselves were covered with a white, chalky substance.

Moreover, such coffins need not always have been placed in pits, nor surrounded with stones. Skeletons found directly upon the surface, without any trace of structures around them, may equally represent burials in coffins, just placed on the ground and possibly covered with a small mound of earth. Such features, unless burnt, would not have been recognised under conditions prevailing in the Kujavian long barrows. Pits found in the Sachsenwald barrows equally were not enclosed in stone frameworks, and yet their regularity of outline is entirely appropriate in the context of coffin burials. Sprockhoff did interpret these pits as possible graves, with the reservation that they were not long enough to have contained extended inhumations but only crouched ones (Sprockhoff 1954, 3). However, the length (between 1,5 and 3m) seems sufficient to accommodate an adult and there is also growing evidence that not only adults but also children were buried within the earthen long barrow graves (see below). Moreover, the shallowness of the Sachsenwald pits (between 10 and 50cm) need not preclude a coffin burial, since it is possible that they were only partially dug into the ground for the purpose of stability. It is incidentally from Lower Saxony that the only evidence for a wooden chamber outside Denmark has been recovered during excavation. Dehnke, in connection with Tosterglope (LSAX-9), quotes information from Keetz about a chamber (?) of wooden planks, with pottery and remains of a human skeleton, having been found at about 10m from the south-eastern end of the barrow (Dehnke 1940, 68).

The survey of grave structures encountered within the earthen long barrows outlined above must, of necessity, be considered fragmentary. It would have been impossible to discuss each structure in detail, and primary consideration was given to those which offered evidence allowing reasonable interpretation. There are still many features which are imperfectly understood, either owing to a lack of sufficient evidence or because the study of the earthen long barrow graves has for too long suffered from neglect. With notable exceptions in Danish research, very little effort has been made to consider grave



structures in cross-regional terms, which is rather surprising considering the extensive use of such an approach in other fields such as *TRB* pottery or the flint industry (see chapter 5).

Any study of the earthen long barrow graves must take into consideration the fact that evidence of organic materials is available only in very exceptional circumstances (for example in a deliberately burnt grave). The evidence outlined above makes it very clear that, in the majority of structures, the use of organic materials such as timber or hide will be reflected only in the arrangement of stone components, such as in walls or on floors. With a few exceptions it is precisely the detailed study and interpretation of patterns recorded through such stone elements, that enables us to infer the original variety and complexity of grave structures.

Although it is to be expected that future discoveries and re-interpretations will challenge some of the suggestions which have been offered, it is also felt that certain generalisations may justifiably be made and that these carry important implications, not only for the future study of the graves but for a better understanding of the earthen long barrows and their role in the development of large scale burial monuments. The latter theme will be developed in the concluding chapter.

In the context of study of the graves themselves, it can be concluded that the evidence outlined above dispenses with the concept of simple *TRB* graves and confirms the structural complexity of the forms. The predominant type of grave within the earthen long barrows is a rectangular, timber-built chamber either standing on its own or, more frequently, set within a stone framework. The existence of such structures in cases where timber elements have not survived is inferred from the regularity of outline of stone constructions which, it is argued, could not have acquired their pattern without being placed against a solid timber framework. The most convincing evidence for this kind of box-chamber is revealed in the so-called pavement grave at Sarnowo (KUJ-32/1, grave 1). Consideration of other pavement burials supports this interpretation and suggests that a pavement, which in many cases reveals depressions in the centre, indicates

a collapsed timber chamber which has been covered with a small stone cairn. Such graves correspond most directly to a grave known in Denmark as the Troelstrup type, with the reservation that none has offered evidence of access to the interior such as has been identified in the Danish examples (Kjaerum 1977, Madsen 1979). Because most of the graves considered have been documented with little attention to detail it cannot be determined whether arrangements for entry to the chamber were present or not.

Further evidence for rectangular timber chambers is offered by the rectangular stone enclosures. It is argued that these surrounded the lower part of the timber grave, in a manner suggested at Lindebjerg (DNK-8, Liversage 1980). The height of these wooden chambers is unknown but the depression in the profile at Wietrzychowice (KUJ-45/3) suggests that their height exceeded that of the stone enclosure. Evidence of an entrance is found at Wietrzychowice and the possibility of an approach passage is further suggested by the layout of the stones.

The interpretation of plain pits as the negative impressions of timber structures is not satisfactory and must be treated with caution since it does, at present, depend entirely upon the regularity of the outline. The existence of slight evidence for timber structures at Sarnowo (KUJ-32/8, graves 2 and 3) and at Łupawa (WPOM-25/17, grave 1 or 25/28, grave 1) does strengthen the above argument but ultimately it remains to be tested in carefully conducted future excavations.

The distinction between a wooden chamber and a wooden coffin is difficult to determine, since little evidence exists which would indicate the height or other external features. It is therefore tentatively suggested that the graves which are identified within substantial stone settings are likely to indicate wooden chambers, while graves in shallow pits with little or no stone arrangement around them and no provision of an entrance will indicate wooden coffins. That some of these may however have protruded above the surface is clearly evidenced in the depth of the pits found in the Sachsenwald barrows (between 10 and 50cm).



*TRB* graves constructed entirely in stone (cists) are also in evidence (for example at Barkaer, DNK-2/2; Rude, DNK-13; Wollschow, MBG-28) although these tend to be less common. Their primary association with the earthen long barrows is argued by Madsen (1980, 106) and is further evidenced at Łupawa (WPOM-25/6, graves 4 and 5). It must however be stressed that the Łupawa complex belongs to a late phase of earthen long barrow construction and therefore the stone cists here may possibly reflect a later development.

Finally, the evidence outlined above suggests a great variety of graves in both structural and conceptual terms. Some graves were obviously more elaborate and more substantially built than others and these differences may be clearly observed. However it is not at all certain what implications, if any, they contain for the social order of the communities that built them.

### 9.3 LOCATION OF GRAVES

It is not certain which principles guided the location of burials within the earthen long barrows, and several patterns may be discerned whose relationship with one another is not entirely clear. In Kujavia the burials tend to be placed within the wider, generally eastern part of the enclosure, within 15m from the eastern end (Table 9). But quite a number are found further away, for example at Obałki (KUJ-22/1, grave 5) up to 40m and at Gaj (KUJ-7/1, grave 2) 47m from the eastern end. It has been suggested that a concentration of graves, other structures and ritual activities within one end of a barrow might have resulted in one of the ends becoming wider than the other (Fleming 1972, 68). But it could equally be argued - at least in the case of the Kujavian long barrows, which from the earliest reveal the highly exaggerated triangular shape - that it was precisely the shape of the enclosure which resulted in the generally eastern location of the graves, since the western part of the enclosure, being usually no more than 2 to 3m in width, may not have been adequate where burial ceremonies required a number of participants.

From Western Pomeranian earthen long barrows there is evidence of graves being located at the wider end of the enclosure (for example

Karsko, WPOM-15/1; Łupawa, WPOM-25/15, 25/28; Wartin, WPOM-50) or in the middle of the mound (Łupawa, WPOM-25/16). In Mecklenburg the graves have been found in the middle of the enclosure (Gnewitz, MBG-8), towards one end (Rothenmoor, MBG-22) or spread out over a substantial length of the interior (Stralendorf, MBG-25).

The rectangular or trapezoidal barrows do not of course present a space problem of the kind encountered in Kujavia. This is evidenced in Lower Saxony and in Denmark where graves have been noted at one or both of the ends - for example in the Sachsenwald (LSAX-8/3) and at Skibshøj (DNK-17), Barkaer (DNK-2) and Bygholm Nørreremark (DNK4) - but also occasionally spread throughout the whole of the enclosure, as for example at Østergård (DNK-12), Sjørup Plantage (DNK-16) and Troelstrup (DNK-22). The specific grave-location does not however seem to be related either to a rectangular or to a trapezoidal enclosure.

Another interesting pattern of burial placement has already been touched upon during the discussion of the segmentation of earthen long barrow interiors (see chapter 8) - that of the frequent placement of the grave (or one of the graves) within the second compartment from one of the ends. Graves thus located - some with, others without skeletal remains - have been identified, for example, at Iłowo (KUJ-8), Świerczynek (KUJ-40), Leśniczówka (KUJ-17/2), Sarnowo (KUJ-32/8), Karsko (WPOM-15/1), Perdöhl (MBG-18/2), Pöglitz (MBG-19) and Barkaer (DNK-2/1 and 2/2). Additional graves (in another segment) also occur at some of the sites, for example at Leśniczówka (KUJ-17/2), Sarnowo (KUJ-32/8, graves 2 and 3) and Troelstrup (DNK-22, one grave in each segment). It is possible that the division of the interior may have arisen after the earliest grave had been placed, but presently insufficient evidence exists to determine the order of construction. At Barkaer however the practice of burial within the second compartment was repeated twice over, and even more complex arrangements seem to be present at Østergård (see discussion in chapter 8).

Why in some barrows there should be graves in both compartments, while in others gaps between compartments with graves and those

without are observed, cannot be determined. However in a majority of instances even the endmost grave is generally placed some distance from the actual end of the enclosure. Sometimes this area seems to have been left free - for example at Barkaer (DNK-2)- while on other occasions traces of timber structures have been encountered, for example at Gaj (KUJ-7/1), Obałki (KUJ-22), Zberzyn (KUJ-47) and Bygholm Nørremark (DNK-4). At the latter site this arrangement seems to have been observed at both ends of the enclosure, with timber buildings between the enclosure's ends and the graves (Fig. 66). It may well be that this area - between the grave and the end of the enclosure - was of particular importance for ceremonies and ritual performances and that this was further emphasised either through internal partitioning or through the construction of timber buildings.

The third pattern, which has also been discussed in detail and merely needs to be recalled here, is the location of the burial within a timber structure (a house?). This may possibly have originated in the custom of placing the barrow upon an earlier settlement (see chapter 4).

These differences in the location of graves within the earthen long barrow enclosures, which are observed throughout the earthen long barrow province, together with the variety of grave forms themselves (see section 9.2), undoubtedly reflect a whole range of ritual possibilities. Depending on circumstances a choice would have been made including some but not all elements of the available rituals. Thus certain barrows offer evidence of only one of the elements of burial custom, while others reveal a whole range of possibilities most probably further modified according to the needs of a particular community.

Turning to the individual orientation of the earthen long barrow graves, 55,8% were oriented E-W and most of the remainder were found to be roughly equally distributed with 16,8% N-S, 14,1% SE-NW and 13,3% NE-SW (Table 12). The predominance of E-W orientation is clearly noted in all regions except Lower Saxony although only samples from Kujavia and Denmark, accounting for 56,36% and 55,6%, are sufficiently large and representative. The N-S orientation

is more common in Lower Saxony than anywhere else (66,7%) but, again, four graves can hardly be representative. No intermediate, SE-NW or NE-SW, orientations have been noted in Western Pomerania or Lower Saxony.

Table 12. Individual orientation of ELB graves, by area

AREA	E-W		N-S		SE-NW		NE-SW	
	No.	%	No.	%	No.	%	No.	%
KUJ	31	56,36	7	12,7	7	12,7	10	18,2
WPOM	3	75	1	25				
MBG	7	58,3	1	8,3			4	33,3
LSAX	2	33,3	4	66,7				
DNK	20	55,6	6	16,6	9	25	1	2,78
TOTAL	63	55,8	19	16,8	16	14,1	15	13,3

Table 13. Comparison of orientation of ELBs and their graves

AREA	SAME ORIENTATION		DIFFERENT ORIENTATION	
	No.	%	No.	%
KUJ	38	69	17	31
WPOM	1	25	3	75
MBG	4	33,3	8	66,7
LSAX	5	83,3	1	16,7
DNK	29	80,6	7	19,4
TOTAL	77	68,1	36	31,9

As far as the relationship between the orientation of the barrow and grave is concerned, 68,1% of graves follow the orientation of their barrow while 31,9% do not (Table 13). This is exceptionally clear in Kujavia (69%) and in Denmark (80,6%); the Lower Saxony data are again misleading since the 83,3% synchronised orientation involves only five graves. It is interesting to note that in Western Pomerania and Mecklenburg the situation appears to be the reverse, with 75% and 66,7% respectively being oriented differently from the barrow, but again the sample is very small and may not be fully representative.

It is difficult to interpret this pattern in view of the

numerical disparity between regions. It should be noted, however, that Kujavia and Denmark reveal a predominantly E-W orientation of graves (which is entirely in accordance with the pattern noted for the orientation of the barrows themselves; see chapter 7). It may also be noted that NE-SW and SE-NW oriented graves - which are mostly found to be in accordance with the orientation of their barrows - could represent a compromise, retaining as near an E-W orientation as possible without, at the same time, deviating from the direction of the barrows in which they are located. The significance of the N-S orientation of graves is not understood, but it is likely to reflect the particular circumstances of burial and does not substantially alter the general trend.

It may be further observed that the possibility of the orientation of a barrow and a grave being unrelated to one another, which was mentioned earlier (chapter 7), finds no support in the data presented above. On the contrary there is clear evidence of a close relationship between the two orientations in terms of the individual orientation of graves, with 55,8% being oriented E-W, as well as of the conformity between the orientation of the barrow and that of the grave, accounting for 68,1%.

#### 9.4 HUMAN SKELETAL REMAINS

Prior to the discussion of burial ritual associated with the earthen long barrows a few comments are necessary concerning the human skeletal remains found in the barrows. Disregarding secondary interments, which in many instances belong to the Globular Amphora culture (Wiślański 1966a, 1969), data referring to human remains from the primary *TRB* context has been presented in Tables 9-11 (pp. 253-5). It shows that the recovery of human remains is infrequent, being noted only in 16% of the total of investigated barrows.

Since human remains are seldom encountered we should, at least briefly, consider the reasons for their absence. This is almost invariably attributed to the poor preserving qualities of the soil (Chmielewski 1952, *passim*). The fact that organic materials within the earthen long barrows are generally poorly preserved has

already been mentioned (chapter 8), yet there is little solid evidence upon which this assumption is based. Save for general assessment of the soil type - sandy, clayey, of riverine origin, *etc.* - soil analysis rarely takes place, especially in terms of its chemical content. At Zberzynek (KUJ-48/1), phosphate analysis revealed unusually high readings from underneath the stone pavement - in contrast to low readings from the rest of the mound - indicating with some degree of certainty the existence of a grave which must have contained a body now decayed beyond recognition (Tetzlaff 1961, 43). But such an analysis is rare and most of the time the presumption of totally decayed human burials is based on intuition rather than solid facts.

There is however evidence to suggest that factors other than soil conditions alone may have been responsible for the absence of human skeletal remains. Although no discussion of the secondary earthen long barrow graves is offered here it must nevertheless be mentioned that in a few cases - for example at Rzeszynek (KUJ-30) and Wartin (WPOM-50) - skeletal remains from burials have survived, while no trace of human bones has been observed in primary *TRB* graves. Moreover, on sites where several earthen long barrows are found close together - for example at Sarnowo (KUJ-32), Wietrzychowice (KUJ-45), Obałki (KUJ-22) and Sachsenwald (LSAX-8) - human bones were found in some of the barrows from a particular group and not in others. This may be extended further to individual monuments which seem to have contained more than one grave - for instance at Sarnowo (KUJ-32/2, 32/4, 32/8) or Bygholm Nørreremark (DNK-4) - where human remains were preserved in some graves, while their absence in others is assumed to be a result of bone decay. There are also examples of individual graves - for instance Sarnowo (KUJ-32/8, grave 1) - where animal bone seems to have survived quite well with no trace of human bones whatsoever (Wiklak 1982, 39).

These facts raise a number of issues. Firstly, they are inconsistent with the assumption that every absence of human skeletal material is a result of poor preservation. They point to the need for co-operation with specialists from other disciplines - soil scientists,



chemists, bone specialists *etc.* - in future excavations and in the interpretation of recovered evidence.

Secondly, they suggest that we must consider the possibility of some sort of treatment of the body prior to the interment which may, either deliberately or unknowingly, have accelerated the process of decay and decomposition. There is evidence, especially from the barrows in Kujavia, that certain of the bodies may have been either painted or covered with some calcareous paste. Examples of this treatment are known from Sarnowo, KUJ-32/4, grave 1, 32/6, grave 1, 32/8, graves 2 and 3.

Chmielewski suggested that the bodies may have been covered with shells (Chmielewski 1952, 62) and Kapica thought that these may have contributed to their speedy decay (Kapica 1971b, 119). Yet no analysis of either the bones thus treated or layers of calcareous substances found lining the bottom, and occasionally sides, of the grave pits has ever been undertaken, and the nature of the substance used and its properties of preserving or decaying bones are not known. Again there is an obvious need for analysis.

We should also bear in mind the possibility, which has been suggested in the context of certain sites in Britain (for example, at Horslip, Beckhampton Road or South Street long barrows; Ashbee *et.al.* 1979), that at least some of the barrows, or certain graves within them, may never have contained bodies at all. An example of this would seem to be present at Krępczewo (WPOM-20), where no evidence of grave structures has been found beneath the stone mantle (Wiślański 1977).

Whether such funerals were relatively common or rare cannot however be determined until more evidence is available and more attention paid to the circumstances of the absence of human remains. The reasons behind such practice are also difficult to explain. Ethnographic sources suggest certain specific circumstances (death by drowning *etc.*; Haglund 1976, Ucko 1969) which may have been responsible for bodyless burials. There may also have been social reasons for which it was inappropriate to include the body, but where constraints of ritual nevertheless necessitated the construction of



the grave. Again more research and attention to circumstances is obviously required, but it seems very clear that to regard the absence of bones as resulting merely from poor preservation is an inadequate and indeed false explanation.

Turning now very briefly to the osteological evidence, it should be noted that identification of age, sex and physical type from the earthen long barrows' skeletal remains is difficult. Many of the skeletons have been recovered in a fragmentary state, some waited many years for anthropological analysis and occasionally the bones simply disintegrated completely (for example the skeleton from grave no. 2 at Gaj, KUJ-7/1)

There is no significant osteological evidence from the earthen long barrows of Lower Saxony, Mecklenburg or Western Pomerania. Very few skeletal remains have so far been identified in Denmark and these still await analysis. The skeletons recovered from Kujavia therefore supply the principal source of information about human remains from the North European earthen long barrow context. In cases where identification of diagnostic skeletal parts was possible, age and sex of the persons were estimated (Table 9).

These findings, in view of the general scarcity of skeletal remains, cannot be considered as representative; any discussion of the social context of burials in the earthen long barrows based purely on such insignificant data could lead to misinterpretations and further consideration must therefore await future discoveries. For the time being we may note that a few examples offered interesting detail pertaining to conditions of life in the 4th and 3rd millennia bc. Some of the skeletons revealed pathological deformations suggesting prolonged illness and traces of rachitis were commonly observed among both male and female skeletons (Kapica 1970b, 1971a, 1971b, 1975).

At one of the Sarnowo barrows (KUJ-32/8, graves 2 and 3) osteological inspection showed breakages and incisions in the long bones, reaching far into the marrow cavities. Kapica associated these features with posthumous treatment of the bodies (Kapica 1971c, 122) and suggested ritual cannibalism. The practice of cannibalism has

also been suggested by Jażdżewski in association with the broken remains of a human skull found in the mound at Wietrzychowice (KUJ-45/3; Jażdżewski 1936b, 128) but this has not yet been confirmed by analysis. It is of course possible that cannibalism may on occasion have been included in the burial ritual, but so far no positive evidence for this practice exists and so these suggestions remain unsubstantiated.

Two other Kujavian skeletons, from the centrally placed grave at Wietrzychowice (KUJ-45/5), offer an interesting insight into early forms of 'medical treatment' (Kapica 1970b). Both skulls bore evidence of trepanation - the skull of the older male had one opening on the left frontal lobe, while that of the younger male had four such incisions. Each of these openings showed clear traces of healing round the edges and it may therefore be assumed that both individuals survived these operations. Evidence of trepanation is consistently, although not frequently, encountered in the Neolithic. It has also been observed on skulls from the Lengyel and Globular Amphora cultural contexts, and does suggest that a considerable amount of skill and medical knowledge must already have been available during the 4th millennium bc.

In instances where sufficiently large fragments of skulls were observed, osteological analysis showed that a majority of individuals were dolichocephalic, most commonly of Atlantic (YE) type with an occasional admixture of Cro-magnon (YY) forms commonly encountered in the Neolithic (Kapica 1968). Although the sample is very small, and only minimally supplemented with skeletal material from other *TRB* contexts, it is possible to suggest that generally there was little population change from Late Mesolithic to Neolithic in the North European Plain. Gracile, dolichocephalic populations were typical of Late Mesolithic Northern Europe and the same types seem to be evidenced in Neolithic skeletal material until the appearance, towards the Late Neolithic, of a stockier, brachycephalic type generally associated with the advance of the Bell Beaker cultural complex (see papers in Schwabedissen, ed., 1973, *Die Anfänge des Neolithikums vom Orient bis Europa*, volume VIII). Palaeoanthropological studies thus support the

hypothesis of local development of the *TRB* cultural complex with the full participation of the Late Mesolithic populations. This suggests acceptance of the Neolithic economy through cultural rather than demographic change, accommodating both cultural similarity and diversity over the vast area of the North European Plain.

#### 9.5 BURIAL RITUAL

Save for a few exceptions the *TRB* burials encountered within the earthen long barrows are fully articulated inhumations. Moreover, there are no apparent differences between the burials from earthen long barrows and those found in flat graves (Jażdżewski 1936a, Wiślański 1979) and it may be accepted that the same principles applied to both. The body was placed in a grave on its back, in an extended position with arms stretched down the sides (Fig. 99 and 100). This is evidenced everywhere where skeletal remains have survived - in Kujavia (for example at Gaj, KUJ-7/1; Iłowo, KUJ-8; Leśniczówka, KUJ-17; Obałki, KUJ-22; Sarnowo, KUJ-32; Wietrzychowice, KUJ-45), Mecklenburg (at Karft, MBG-15) and Denmark (Bygholm Nørreremark, DNK-4; Skibshøj, DNK-17; Rude, DNK-13).

In exceptional circumstances a slightly different position of the body may be observed, for example at Gaj (KUJ-7/1, grave 2) where the skeleton was found with its legs spread out and arms crossed over the chest (Chmielewski 1952, 91). Extended inhumation burial, where no skeletal remains have survived, is moreover fully borne out in the shape and size of the graves themselves (see section 9.2).

As far as the treatment of the bodies is concerned there is very little evidence to suggest that any particular rituals were performed. There seems to be no evidence of exposure of the bodies prior to interment, although it is possible that some of the wooden grave chambers remained open for a certain period of time, possibly until the body was reduced to a skeletal state. So far only two skeletons from Sarnowo (KUJ-32/8, graves 2 and 3; Kapica 1971c, Wiklak 1982) show any evidence of pre-burial mutilation. It was noted earlier that both of these skeletons showed posthumous breakages of the long bones and Kapica suggested that the ritual character of the

treatment was further supported by the fact that these two persons were buried not in the main enclosure but in an annexe (see also comments in chapter 8). Since these are so far the only two examples of such treatment associated with earthen long barrow burials from the North European Plain, they must be regarded as exceptions. It may however be noted that some of the flat grave burials from the south-eastern *TRB* group do occasionally offer evidence of deliberate body mutilation such as twisting or crushing of the skulls, filling of the mouth with stones or cut-off limbs, binding of the legs and arms (Gurba 1957, 1970; Wiślański 1979, 258). These practices are however not widespread and their association with the south-eastern *TRB* group may possibly suggest a foreign origin of such rites.

Occasionally skeletons recovered from Kujavian long barrows do show signs of having been covered with calcareous substances (see section 9.4) but this practice has not so far been observed elsewhere. It is of interest however to note that some of the burials in the south-eastern *TRB* group do show evidence of red ochre staining (Wiślański 1979, 258). In this context it may also be mentioned that a beaker from Lindebjerg (DNK-8) showed traces in the interior of ochre-red staining (Liversage 1980, 117) and that ochre traces were also associated with the grave at Stengade (DNK-18/1; Skaarup 1975, 30).

Another aspect to be discussed in connection with burial ritual is the provision of grave-goods. Types of object found in direct association with the graves are listed in Tables 9-11. It is clear from these that in terms of furnishings which are archaeologically recoverable the earthen long barrow graves are very modestly equipped.

Pottery is most commonly encountered, especially collared flasks and beakers, but other forms such as bowls, amphorae and handled jugs are also represented. The least well furnished graves are those in Kujavia. Many contain no finds whatsoever and often, when grave-goods are found, they consist of only a few undiagnostic sherds. Sometimes burials are accompanied by one vessel, for example at Obałki (KUJ-22/1, grave 1), Rybno (KUJ-29, graves 1 and 2) or Sarnowo (KUJ-32/1, grave 1; 32/2, grave 4), and occasionally two pots have been found, for example at Sarnowo (KUJ-32/2, grave 1).

In other regions, in Western Pomerania, Mecklenburg or Denmark, the ceramic assortment is more varied and numerous. Several vessels are sometimes encountered within one grave, for example at Wartin (WPOM-50; Siuchniński 1972), Gnewitz (MBG-8; Schuldt 1966c) or Rothenmoor (MBG-22; Schuldt 1967). At Stralendorf (MBG-25) four graves out of six all contained pottery, with grave no. 1 being furnished with a bowl and a beautifully-decorated handled jug (Schuldt 1965, Fig. 8). Pottery sherds are also commonly found in association with earthen long barrow graves in Denmark and two exceptionally rich graves have been recovered at Tolstrup (DNK-21). One of the graves (no. 2) had five vessels and grave no. 3 contained as many as eight vessels - seven beakers and a lugged pot - as well as a clay lid (Madsen 1975, Fig. 4 to 7),

Apart from pottery, flint implements also accompany some of the burials. Again, only very scanty finds are noted in Kujavia. Occasionally the dead person may have been buried with a flint blade, as at Gaj (KUJ-7/1, grave 1) or Leśniczówka (KUJ-17/3, grave 1). Exceptionally several implements are found, for example at Obałki (KUJ-22/2, grave 1). It is further interesting to note that in none of the Kujavian barrows have any axes been found, although these are regularly encountered in Denmark and sometimes in Western Pomerania and Mecklenburg.

The apparent lack of the axe during the Sarnowo and Pikutkowo phases in Kujavia has been discussed in detail earlier (chapter 5). In the present context it may be suggested that the lack of axes does seem to support chronological differences between the majority of barrows here and those from other regions.

Deviating just momentarily we may note that, on the basis of pottery association, a substantial number of Kujavian barrows - for example Leśniczówka (KUJ-17), Obałki (KUJ-22), Sarnowo (KUJ-32) - may be assigned to the Pikutkowo phase (from 3600 bc onwards), while sites such as Zberzyn (KUJ-47), Gaj (KUJ-7) or Wietrzychowice (KUJ-45) reveal ceramic associations typical of the Wiórek phase (Gabałówna 1970a, 1971; Kośko 1980, 1981, 1982; see also discussion on *TRB* chronology in chapter 5). Construction of the Sarnowo site during

the early Pikutkowo phase is further supported by C-14 determination from this site (Appendix 1; see also comments in chapter 5) but it is not proposed here to present a chronological sequence of Kujavian barrows, as it is felt that more evidence (both in terms of C-14 dates and ceramic studies) is necessary before a tentative chronological scheme may be attempted.

It may however be observed that in Western Pomerania, Mecklenburg, Lower Saxony and Denmark, ceramic associations point towards later, EN-C or Fuchsberg association (fully borne out by C-14 dates from Denmark, Appendix 1) although, as already noted earlier, the re-interpretation of Danish ceramic styles is essential to chronological interpretation of material associated with earthen long barrows, not only in Denmark but throughout the North European Plain.

Among the more unusual grave-goods are objects of stone, bone, amber and copper (Tables 9-11). A stone mace head has been found at Rybno (KUJ-29, grave 1; Jażdżewski 1936a, 193); a stone pendant was found in the Sachsenwald (LSAX-8/6; Sprockhoff 1954, Fig. 6-1) - although the latter may not be a direct grave association - and an ornament of boar's tusk near the face of a skeleton at Sarnowo (KUJ-23/3, grave 1; Chmielewski 1952, Fig. 30).

Apart from the Danish long barrows amber has been found only sporadically elsewhere. At Świerczynek (KUJ-40/1) three circular perforated amber beads were found round the neck of one of the skeletons, and in the neighbouring barrow (KUJ-40/2) seven amber beads were recovered in a similar location (Chmielewski 1952, 48). A heart-shaped amber bead was also found by Ritter during his investigations at Karft (MBG-15; Ritter, 1842, 19).

In Denmark nine barrows contained graves in which amber was found. The variety of shapes - tubular, triangular, plate, disc and figure-of-eight pieces, many with perforations - as well as the number of pieces found in some of the graves (for example 250-300 at Salten Langhøj, DNK-15; Becker 1947, 253, Fig. 53; or 130 beads at Hejring, DNK-7, grave 2; Madsen 1979, 305) - suggests that they were part of the clothing of the dead person, worn as necklaces or belt buckles, or sewn onto the garments.



From the Skibshøj (DNK-17) and Sjørup Plantage (DNK-16) barrows amber ornaments with perforated edges were recovered (Jørgensen 1977) and these reveal similarities with copper discs, such as have been found at Rude (DNK-13; Madsen 1980, Fig. 1), Salten Langhøj (DNK-15; Becker 1947, Fig. 54) and Konens Høj (Stürup 1966, Fig. 6). No copper ornaments have so far been found in direct association with other earthen long barrow graves although a copper ring has been found in the burnt layer (timber structure?) at Leśniczówka (KUJ-17/2; Jażdżewski 1936a, 177). Jażdżewski does not however mention the precise position of the ring and it is not certain whether it represents a deliberate placement or an accidental loss by one of the participants in the ceremony.

Finally, the question of the derivation of the *TRB* burial custom must now be briefly considered. As has been outlined above, the characteristic burial mode encountered within the earthen long barrows, as well as in the flat grave cemeteries, is that of the extended inhumation. The only significant deviations from this custom are the crouched inhumations of the Baalberge group (Fischer, U. 1956; Häusler 1975) and those sporadically encountered in the south-eastern group of the *TRB* (Wiślański 1979).

Possible sources of the origin of the *TRB* burial offer themselves in the cultural complexes which precede or are contemporary with the early *TRB* - i.e. the *LBK*, *Late LBK* and Mesolithic. A review of the evidence of *LBK* and *Late LBK* burial reveals that crouched inhumation in a pit grave constitutes a predominant burial mode (Bednarczyk *et.al.* 1980, Fischer 1956, Kahlke 1954, Modderman 1970, Pavúk 1972) with only sporadic cremations or extended inhumations. The graves are found scattered in or near the settlements or forming cemeteries some distance from the settlement site.

On the other hand, the custom of extended inhumation has a long tradition among the Mesolithic communities of Northern Europe. This is shown both by finds of individual graves (for example at Vedbaek Boldbaner, Mathiassen 1946; or Dragsholm, Brinch Petersen 1974) and in discoveries of cemetery complexes (for example at Vedbaek, Albrethsen and Brinch Petersen 1975; Zvejnieki, Zagorski



1973; or Ostorf, Bastian 1961, Schuldt 1961).

Both Zvejnieki and Vedbaek were located in the vicinity of settlements, and Zvejnieki in particular evidences the custom of burial in a specific location over a period spanning two millennia. The dead are placed in shallow, generally individual graves although multiple (family?) burials are witnessed as well. Grave-goods such as flint tools and personal adornments commonly accompany the burials, which are also regularly sprinkled with ochre.

In Mecklenburg a number of Late Mesolithic cemeteries are known from the central lake belt, on the shores of the Müritzer See - for example at Waren - and of the Schweriner See - for example at Ostorf (Bastian 1961, Schuldt 1961). The graves here reveal typical extended inhumations - regularly accompanied by mixed grave-goods assemblages containing typical Mesolithic flint *équipement* as well as Neolithic pottery and flint axes - clearly indicating a continuity of Mesolithic burial tradition among the communities which were at a transition stage from a purely hunting and fishing to a farming economy. Recent discoveries from the Netherlands, at Swifterbant, offer further support for the continuity of a Mesolithic burial tradition in a similarly transitory context (van der Waals 1977).

Consideration of the *LBK/Late LBK* and Mesolithic burial evidence shows clearly that there is little connection between the funerary customs of the former cultural complex and that of the *TRB*, while there is considerable continuity from the Mesolithic burial tradition. This is especially evidenced in the custom of individual extended inhumation, but also in the cemetery formation of the flat *TRB* graves as well as occasional ritual details such as use of ochre or deposition of bone ornaments.

The continuity of burial customs from the Mesolithic to the Neolithic is clearly supported by the fact that communities which are in the process of adopting a farming economy (such as at Ostorf or Swifterbant) continue to bury their dead according to the Mesolithic custom. This is further supported by, and entirely in keeping with, the already discussed (chapter 5) involvement of the Late Mesolithic hunting and fishing groups in the development of the *TRB*

cultural complex throughout the North European Plain.

## CHAPTER 10      EARTHEN LONG BARROWS IN THEIR EUROPEAN CONTEXT

The distribution of large-scale funerary monuments in Europe reveals that this phenomenon is associated with areas peripheral to the primary temperate European Neolithic settlement (*LBK* culture). Chronological indicators suggest that it belongs to the period of secondary expansion of the farming economy and of its adoption within the peripheral zone in a process of acculturation in its broadest sense. It has been observed that the introduction of a farming economy in the North European Plain was not a one way process (*i.e.* the expansion of the *Late LBK/Rössen* outwith the original settlement area) but that it involved the active participation of local Mesolithic communities (chapters 4 and 5). The *TRB* culture complex was the result of a fusion of two culturally, economically and socially different systems, and the diversity of the Mesolithic background within the North European Plain is reflected in the differences within the *TRB* culture itself. That this process was not unique may be observed to a greater or lesser extent all along the littoral zone, through the Low Countries (Louwe Kooijmans 1976, van der Waals 1977), in Brittany (Hibbs 1983) and beyond.

The phenomenon of large-scale funerary monuments is today interpreted within a conceptual framework which assumes that independent development took place within several nuclear areas - Iberia, Brittany, southern Britain, Ireland and northern Europe - (Renfrew 1976a, 142). Renfrew has argued that similarities between these monuments in different areas are of a superficial nature, and that their development in each region was the direct result of a changing socio-economic environment and was activated by an increase in population density, a growing scarcity of land and a need for territorial demarcation - conditions which in their turn were brought about by contacts between the Mesolithic and Neolithic communities halted against the 'Atlantic façade'. In order to explain the temporal and structural coincidence of the European megaliths Renfrew further

argued:

"If similar conditions held in other areas, there is no cause for surprise that in some of them similar developments are observed".

(Renfrew 1976a, 157)

Chapman has pursued the theme further by arguing that the appearance in the Neolithic of formal disposal areas - and he included here not only large-scale funerary monuments but also flat-grave cemeteries - was a fundamental mechanism in the processes for adjusting the balance between a society and its resources (Chapman 1981b, 80).

The 'independent origins' theory does not however explain satisfactorily the continuous distribution of megaliths and related structures along the littoral zone of northern and western Europe. Although the socio-economic conditions in different regions of the continental coast may have been similar, and the need for expression through large-scale funerary monuments may have arisen independently, their interpretation purely in terms of population and economy ignores many other factors associated with this phenomenon. It does not, for example, take account of the continuity of the tradition - well over a millennium and a half in some areas - in the face of shifting settlement patterns and of changes in the economy resulting from the secondary products revolution, notably from the adoption (by the middle of the third millennium bc, and probably even earlier) of the plough and the use of animal traction (Sherratt 1981).

Moreover, the 'independent origins' theory does not explain problems such as the appearance of a variety of large funerary monuments in Britain, where there is no evidence of the sort of socio-economic pressure which is said to have stimulated the emergence of these monuments on the continent. Nor does it account for the similarities in the development of certain forms, which clearly go beyond a superficial resemblance, to those on the continent. Indeed the fact that a Neolithic economy established itself in the British Isles is of paramount importance to the question of contacts within northern and western Europe which, far from being sporadic, appear to have been well organised and of a regular nature. It is by no means

proven that this did not occur through the agency of coastal farmer/fisher communities (see Whittle 1977 for contrary arguments).

In discussing the development of the early Neolithic in southern Scandinavia J.G.D.Clark suggested that the exploitation of marine resources - especially deep sea fishing - was a fundamental element in the overall economy of the coastal farming communities (Clark 1977). He has moreover argued that these fishermen made a substantial contribution to the opening up of routes along the Atlantic sea-board as well as to the maritime distribution of the megaliths (*Ibid.* 43). The exploitation of coastal and estuarine resources is attested all along the coast where sea-level changes have not obliterated traces of coastal settlement - evidence of fishing supplementing a farming diet is known from Brittany (Hibbs 1983), the Low Countries (Louwe Kooijmans 1976, van der Waals 1977) and Denmark (Madsen 1982) - and is likely to have been an important element in the economy of the whole littoral zone from the Atlantic to the Baltic.

The existence in Brittany of a purely northern ceramic form - the collared flask - expresses emphatically the distances involved in the activities of these fishermen. Although one dated Breton example is from the early 3rd millennium bc context (Hibbs 1983, 305, 308) it is likely to reflect not a new, but rather an old and well-established contact route, an idea further supported by the contemporaneous appearance in both regions of the earthen long barrows. Contacts between the continent and Britain in the 4th millennium bc have recently been discussed in detail by Whittle (1977) and, in summary form, by Darvill (1982). Whittle traced the main stimuli for the development of the British Neolithic to the continental post-LBK substratum of the late 5th/early 4th millennia bc (Whittle 1977, 243), settling for a Breton source as the most plausible for the derivation of the British long barrow tradition (*Ibid.* 219). Darvill on the other hand has followed J.G.D.Clark in considering the importance of various coastal farming communities of the North Sea, English Channel and Irish Sea to the development of the Neolithic in western and northern Europe, stressing the continuous and multiple

interactions over a wide area (Darvill 1982, 86-88).

In such a context of continuous interplay of various influences within western and northern Europe, the development of the large-scale funerary monuments (in contrast to possible independent stimuli for their initial appearance) cannot be interpreted as an independent process. Indeed, seen through a prism of wide-ranging contacts, the earthen long barrow tradition does not represent an isolated and separate development but should be considered as one of many form of expression of a phenomenon seen along the broad coastal belt from the Baltic to the Atlantic.

With regard to the initial appearance of the earthen long barrows, the chronological evidence does not at present suggest priority either for Brittany or for Northern Europe. The hearths beneath a long mound at Le Grée de Coujoux, Saint-Just, yielded C-14 dates comparable to that from Sarnowo (Gif-5458 :  $3710 \pm 120$  bc; Gif-5456 :  $3630 \pm 120$  bc and Gif-5457 :  $3600 \pm 120$  bc; Hibbs 1983, 321). Earliest C-14 dates for British earthen long barrows are if anything about 200 radiocarbon years younger (GX-1178 :  $3415 \pm 180$  bc, Lambourn; BM-180 :  $3240 \pm 150$  bc, Horslip; BM-134 :  $3230 \pm 150$  bc, Fussell's Lodge; Radiocarbon 11 and 10). These low-precision C-14 dates, however, are not sufficiently accurate to determine whether such differences are real or scientifically imposed, the standard deviations involved being large enough to allow the possibility of synchronous contacts within and between the three regions. While there are good grounds for believing in the local origin of the North European earthen long barrows (see below) this fact does not exclude the possibility of contacts and mutual influences between all three regions. The Breton evidence is still insufficient for comparison since very few sites have been thoroughly investigated; recent excavations at Le Grée de Coujoux (Le Roux 1981) suggest general similarities which as yet cannot be substantiated. On the other hand a comparison between the British and North European earthen long barrows offers interesting evidence of a relationship between these two regions.

Apart from indicating a preference of the British Neolithic communities for a particular environment, the predominantly southern

and eastern distribution of the British earthen long barrows (Ashbee 1970, Fig. 1 and 2) does point towards the continent as a likely source of inspiration for the British earthen long barrow tradition. The problems of identifying specific regions which may have provided the necessary impulses lie in the fact that contacts between Britain and the continent, although clearly seen, were taking place along a broad zone from the Atlantic to the Baltic, and their nature still remains a matter of contention (cf. Darvill 1982, Whittle 1977). In a recent discussion of the continental origins of the British long barrows, Whittle found little evidence of a relationship between the British and North European earthen long barrows (Whittle 1977, 215).

It is not possible on this occasion to undertake a comparative study of the monuments in these two areas. Direct parallels in specific features cannot always be drawn and indeed are not expected in view of the diverse character of the North European barrows themselves. A few interesting aspects however may be drawn to our attention.

The trapezoidal plan of some of the British earthen long barrows is a well known feature and suggestions as to its general derivation from the continental long house tradition have frequently been discussed (Childe 1949; Ashbee 1966, 1970; Piggott 1967; Reed 1974; Kinnes 1975, 1981; Marshall 1981). A substantial number of the mounds have been subject to severe denudation but, in instances where the outline of the underlying timber enclosure has been recovered, it has frequently been found to have an asymmetric trapezoidal plan. This layout is clearly seen at, for example, Fussell's Lodge (Ashbee 1966), East Heslerton (Vatcher 1965), Giants' Hills, Skendleby (Phillips 1936) and sometimes may even be recognised in the shape of the earthen mound, for example at Nutbane (Morgan 1959) and Beckhampton Road (Ashbee *et.al.* 1979). Moreover some of the stone-chambered barrows also reveal an asymmetry of plan, one of the most convincing being Wayland's Smithy II (Atkinson 1965). It has already been noted earlier that an asymmetric trapezoidal or rectangular plan is a common feature among the North European earthen long barrows (chapter 7). Its ancestry will be discussed shortly; meanwhile it may be observed that



the common occurrence of this feature in both regions argues against the possibility of independent development.

Evidence outlined earlier shows clearly that the North European stone kerbs were not merely structural stone supports but that they performed the same function as the British timber enclosures (chapter 7). In fact the recent discovery of closely comparable timber enclosures in Jutland supports the previously meagre evidence for this form of construction in Northern Europe. The discovery of timber-framed long mortuary enclosures at Bréžno, Bohemia (Pleinerová 1980) adds to the argument for alternative methods of enclosure construction and suggests that timber versions are likely to have been a regular feature.

With the timber and/or stone enclosures there are associated, in both regions, a whole range of comparable structures and processes. Attention may be drawn to the fact that there is evidence not only for prolonged use of the enclosures, but also for their having been dismantled and rebuilt (for example East Heslerton, Vatcher 1965; Kilham, Manby 1976 or Wayland's Smithy, Atkinson 1965). Constructions in front of and within the interior, provision of access and blocking-off devices (both temporary and permanent) are attested in both areas (chapter 8; Nutbane, Morgan 1959; Fussell's Lodge, Ashbee 1966 or Wayland's Smithy, Atkinson 1965); façades, either of massive timber uprights or replicated in the placement of large boulders, are also comparable, and evidence of deliberate destruction by fire is common in both British (East Heslerton; Hanging Grimston, Mortimer 1905) and North European (chapter 8) long barrows.

Interior structures of a funerary and related nature are equally common in both groups (Giants' Hills, Phillips 1936; Dalladies, Piggott 1972b; Lochhill, Masters 1973; chapter 8) and whatever the final interpretation of the so-called 'ridged mortuary houses' may be, structures revealing traces of large posts at either end are regularly encountered (Fussell's Lodge, Wayland's Smithy I; Konens Høj Stürup 1966). Similarly, arguments as to whether the Gaj (KUJ-7/1) structure was really ridged (Whittle 1977, 215) are irrelevant in this context. Most important here are the general

principles of development and function which reflect consistencies beyond those of immediate appearance. In both regions there is evidence of construction within the earthen long barrow enclosures of non-burial structures (for example Nutbane, Giants' Hills; chapter 8). Architectural details of such structures are more likely to reflect local prototypes (*cf.* the similarity of ground plan between the Nutbane long barrow and elements of the Balbridie house; Morgan 1959, Ralston 1982) or an individual group's preferences (as is indeed demonstrated in Northern Europe).

The Yorkshire barrows' burnt burial structures - the so-called crematoria (Manby 1970) - recall the North European timber buildings associated with graves and burnt during burial ceremonies (see arguments in chapter 8). Differences in appearance relate more to the various building materials used (timber in Northern Europe; chalk, limestone and timber in Yorkshire) and as such need not detract from the overall similarity of purpose. Finally, the scarcity of grave-goods and the deposits of 'domestic rubbish' within the confines of the long barrow enclosures are common to both regions and indeed attention may be drawn to the common practice of deposition of soil derived from wet environments and containing large quantities of riverine molluscs (for example at Sarnowo, KUJ-32/8, 32/9 or Giants' Hills).

Important differences between the North European and British earthen long barrow traditions also exist. The most striking difference is in the nature of burial within the two regions. The communal burial typical of the British barrows tends, in view of the lack of knowledge of any preceding local tradition, to indicate Western Europe as a plausible source. Furthermore, evidence of treatment of the dead (pre-burial exposure, selectivity of deposition indicated in the regular lack of certain skeletal parts) is not attested anywhere within Northern Europe and must reflect a local or Western European source.

On the other hand, although the North European barrows are communal monuments in the sense that many of them contain several graves, the attention afforded to individual interment relates

directly to burial customs rooted within the Northern Mesolithic tradition (chapter 9).

The clustering of a number of barrows into the so-called 'cemeteries' is typical of certain regions of Northern Europe, whereas it is not observed in Britain. This may be directly related to different settlement strategies in the two areas. It may further be observed that such clusterings are typical of areas where the *TRB* communities existed side by side with the *Late LBK*/Rössen groups (Kujavia, Western Pomerania, Lower Saxony), whereas it is not representative of Denmark and Britain where the co-existence of various Neolithic groups cannot be shown.

It is not necessary to prolong this list of comparable and different elements. The above discussion shows clearly that, in spite of Whittle's assertion, the evidence, far from being vague, is specific on a number of points. It indicates the comparable development of individual elements as well as general trends, reveals differences precisely where these would be expected, and strengthens the arguments for close and continuous contact, with local adaptations being a direct response to local conditions and requirements.

It has been argued earlier that within the North European Plain we may observe a 'pool' of architectural, ritual and constructional elements and that only a selection of these will be apparent within any one monument. Precisely the same argument applies to the relationship between the British and North European earthen long barrows. The search for direct parallels and specific areas from which a combination of elements may be derived would be to interpret in simplistic terms a complex network of contacts and influences between Britain and Northern Europe. It is by no means suggested here that the correspondences outlined above indicate a 'one-way traffic', nor that the origins of the British earthen long barrows should be sought exclusively in Northern Europe. A number of similarities suggest that some impulses undoubtedly reached Britain from the North; indeed the find of a Nordic axe within Julliberrie's Grave long barrow is a strong argument for contacts in this direction (Jessup 1939, 267-269). On the other hand it is perfectly plausible

to account for some of the more uncommon features in Northern Europe - for example the so-called 'ridged mortuary houses' of the Konens Høj type (note that on present evidence these are limited to Jutland and regarded as late features, Madsen 1979) - as being a result of influences moving eastwards.

That these influences are not limited to earthen long barrows alone can further be demonstrated by the existence of large enclosures, again roughly contemporaneous features, in both regions (note the segmented nature of their ditches as well as evidence of their non-utilitarian function; Andersen, N.H. 1981; Madsen 1978a, 1987b; Mercer 1980) as well as by more general similarities in material culture (Piggott 1955, 1967). Such evidence argues against Whittle's assertion that there was little contact between Britain and the continent from the late 4th millennium bc onwards.

\*            \*            \*

"The Danubian peasants lived in very long houses, some rectangular others trapezoid in plan. Some at Brzesc Kujawski ... were as much as 32m. long, 10m. wide at the south end but only 5m. at the inner extremity. Now some First Northern farmers in the East and South groups laid out the long barrows over their graves on a very similar plan ... It is tempting to see in this curious plan an attempt to make the house of the dead approximate to habitations such as are illustrated at Brześć Kujawski".  
(Childe 1949, 135).

Ever since these words were written, the idea that long barrows may have had prototypes in the continental long houses has excited British archaeologists and this question occurs regularly in albeit general discussions on the subject of the British earthen long barrows. Thus Ashbee noted similarities of plan between the trapezoidal bedding trench of Fussell's Lodge and long barrows in the North European Plain and, even "... more closely, house plans in those regions" (Ashbee 1966, 45). Similarly Piggott, discussing earthen long barrows in Britain, commented upon the "... respectable ancestry in Central and Northern Europe" of the trapezoidal ground plan (Piggott 1967, 389); Kinnes (1975) and Savory (1977) also expressed

a general confidence in this idea, and a more detailed study by Reed attempted to solve this problem by suggesting a specific relationship between the lengths of long barrows and of long houses (Reed 1974). However, although Sprockhoff did note that the long barrows of northern Germany may have resembled long houses in their external appearance (Sprockhoff 1938), and although recently Glob even re-interpreted the Barkaer structures as long barrows rather than long houses (chapter 8; Glob 1975), these suggestions never really found favour with continental researchers - principally, it seems, because of the generally held belief in the western origin of megaliths. Even Jażdżewski, one of the strongest adherents of the 'local origins' theory of the *TRB*, was happy to accept that the "...megalithic idea' within the northern *TRB* sphere spread from west to east" (Jażdżewski 1970a, 36).

With regard to the form of the British earthen long barrows, discussion of their hypothetical derivation from the continental long houses has yet to move beyond the general level. In spite of the similarities of form already noted, the processes involved in the appearance and development of the earthen long barrows in Britain are far from clear. And yet any discussion of this question must, apart from the similarity of form, also concern itself with the chronological, geographical and functional aspects of the relationship between these two types of structure. In this context, one region of the North European Plain - the area of Kujavia - offers a hitherto unique opportunity for the study of this relationship and, notwithstanding the difficulties inherent in the investigation of the 'origins' of any phenomenon, this question is raised again here in the hope that the available evidence may go some way towards elucidating at least some aspects of the relationship between the long barrows and long houses.

As has been outlined in detail earlier (chapters 4 and 5) there is today sufficient evidence to regard the development of the *Late LBK* and *TRB* culture complexes as largely contemporaneous. In certain areas of the North European Plain, the *Late LBK* and early *TRB* communities thus co-existed and the influence which they

exercised upon one another have also been discussed. This contact is also clearly observed in Kujavia, and evidence from northern Germany (see chapter 5) strongly suggests that a similar relationship may have existed there between the *TRB* and Rössen cultures. Furthermore, the information on the *Late LBK* and *TRB* settlement of Western Pomerania (unfortunately as yet without the necessary chronological back-up) indicates that in this area a similar co-existence may also be assumed (Siuchniński 1972; Wiślański 1969, 1979). The details of the *Late LBK* and *TRB* chronology have been outlined earlier (chapters 4 and 5) and we only need to remind ourselves that, on present evidence, the beginnings of the *Late LBK* date from around 3900/3800 bc (phase Ia; Czerniak 1980) and that the *TRB* communities also established themselves in the early centuries of the 4th millennium bc, and certainly well before 3600 bc (final stages of the Sarnowo phase; Gabałówna 1971).

Consequently Kujavia is currently the only region in which the chronological contemporaneity of earthen long barrows and long houses is matched by the geographical juxtaposition of the two forms. All long houses of the period under discussion are trapezoidal in ground plan, and a sequence of development has been traced from those with individually placed posts (phase Ib onwards; Konary, Czerniak 1980, 116) through those with intermittent bedding trench (phase IIb onwards; Krusza Zamkowa, *Ibid.*; Brześć Kujawski, Gabałówna 1966) to those with a continuous bedding trench (phase IIIb onwards; Biskupin, Maciejewski 1959; Krusza Zamkowa, Czerniak 1980; Brześć Kujawski, Gabałówna 1966).

Having established the chronological and geographical grounds for the acceptance of a relationship between these two types of structure, it is now necessary to offer a few general comments prior to a comparison of features common to both forms. The variety of architectural and constructional elements of earthen long barrows described earlier (chapters 7 and 8) makes it quite clear that the barrow form was not a static element but was evolving throughout the whole period of construction. The architectural and constructional principles of each monument were selected from a large 'pool' of



available elements and applied in accordance with the needs and wishes of the builders.

It is therefore very important to realise that, firstly, we must not expect and thus should not search for direct parallels, since the diversity of the barrows themselves suggests that they are not likely to have been replicate copies of whatever prototype they may have evolved from. Secondly, we must bear in mind the different materials used both within the earthen long barrows themselves and in comparison with the long houses. Thirdly, we must recognise that the earthen long barrows and long houses were functionally different and that the activities which took place in them were likely to have required different settings and different interior arrangements.

Finally, at the risk of over-emphasis, one more aspect is of fundamental importance in the present context: can we always distinguish between a long house and a long barrow? Trapezoidal foundation trenches with timber traces are regarded principally as the remains of long houses. However, a long barrow enclosure which has been constructed entirely in timber or in a combination of timber and stone - and which, additionally, either has never been covered by an earthen mound or has a mound which has been totally eroded - may easily be mistaken for a long house. Indeed, these are precisely the lessons learned at Barkaer (Glob 1975) and Stengade (Skaarup 1975). A site which may well fit into this category is the long house at Niedźwiedź (Burchard 1973). A careful study of the excavation report and an examination of the original plans, as well as a long discussion with the excavator, still leave the writer unconvinced of the domestic nature of this site. A complete excavation of a neighbouring monument at Stradów (Gromnicki 1961) or, indeed, long-overdue work on and publication of the Lublin-Sławinek site (Jażdżewski 1970a) may help to clarify this issue in future.

In an earlier discussion of the ground-plan of a typical Kujavian long barrow, it was suggested that this plan was based upon a combination of two elements: 1) a trapezoid and 2) a very long and narrow rectangle or a very gradually narrowing, elongated trapezoid (chapter 7). It was further noted that, although this division did not



Table 14 Length and width (at wider end) of a select number of *Late LBK* houses in Kujavia (all dimensions in metres; sources - various)

SITE AND HOUSE No.		LENGTH	WIDTH (WIDER END)
Biskupin	1	29	6
Brześć Kujawski	1	25	6
	2	32	10
	3	14	4
	4	27	8
	5	23	?
	6	25	?
	12	40	10
	13	23	?
	15	23	7
	16	22	6
	17	19	5
	21	20	7
	22	26	7
	24	22	6
	30	22	7
	33	28	8
	46	27	8
	47	22	6
	48		7
Dobre	1	18	6
	2	11	5
Konary	1	8,5	5
Krusza Zamkowa	49	22	8
	50	23	8
	91	26	11
	318	26	8
	345	24	6

seem to manifest itself structurally, it could nevertheless be observed in the overall design of the monuments in a change of direction of either one or two walls at a certain distance from the broader end, as well as in the functional differentiation of the interior indicated by a concentration of activities and structures within the wider part of the barrow's enclosure.

A comparison of the dimensions of long barrows and long houses shows interesting results. The range of identifiable lengths of long houses from the Brześć Kujawski multi-period settlement falls between

14 and 40m, and there seems to be little difference in the lengths through the various phases of the settlement. Other *Late LBK* houses from Kujavia also fit very comfortably within this range (Table 14). The widths of the houses vary between 4 and 11m at the wider end, and generally between 3 and 5m at the narrower end. Comparison of these data with dimensions established for the wider, *i.e.* trapezoidal, component of the earthen long barrows (between 13 and 46m in length, 6 and 12m in greater width - Table 2a - and 2,5 and 5m in smaller width) shows a similarity so striking as to suggest that it was not accidental.

Let us now examine the actual ground-plans of the structures in question. Fig. 101 shows examples of house plans known in Kujavia. It will be noted that in most cases (and throughout all three hypothetical phases of development) these appear as asymmetrical trapezoids and, consequently, their main axis is off centre. The long walls converge asymmetrically towards the narrower end and frequently one wall appears to be straight while the other is slightly concave. The ground-plans of Kujavian long barrows have already been studied in detail (chapter 7) and it may be recalled that precisely the same layout is characteristic of their trapezoidal components: asymmetry of the long walls, main axis off centre, generally marked concavity of one wall. This is clearly seen at Sarnowo (KUJ-32, Fig. 48 and 49), Leśniczówka (KUJ-17, Fig. 50), Obałki (KUJ-22, Fig. 51), Wietrzychowice (KUJ-45, Fig. 52 and 53) and Zberzyn (KUJ-48, Fig. 54).

This peculiarity of layout of the trapezoidal component is typical of all Kujavian long barrows whose plans are known in some detail (chapter 7); it cannot therefore be due to the builders' inability to lay out straight lines but must represent an intrinsic element of the overall design. A comparison of the ground-plans of long houses and the trapezoidal component of the long barrows in this region shows such a degree of consistency between the two structures that the modelling of the earthen long barrows upon the local long houses appears to be more than just a possibility.

Even more interesting is the fact that a number of earthen

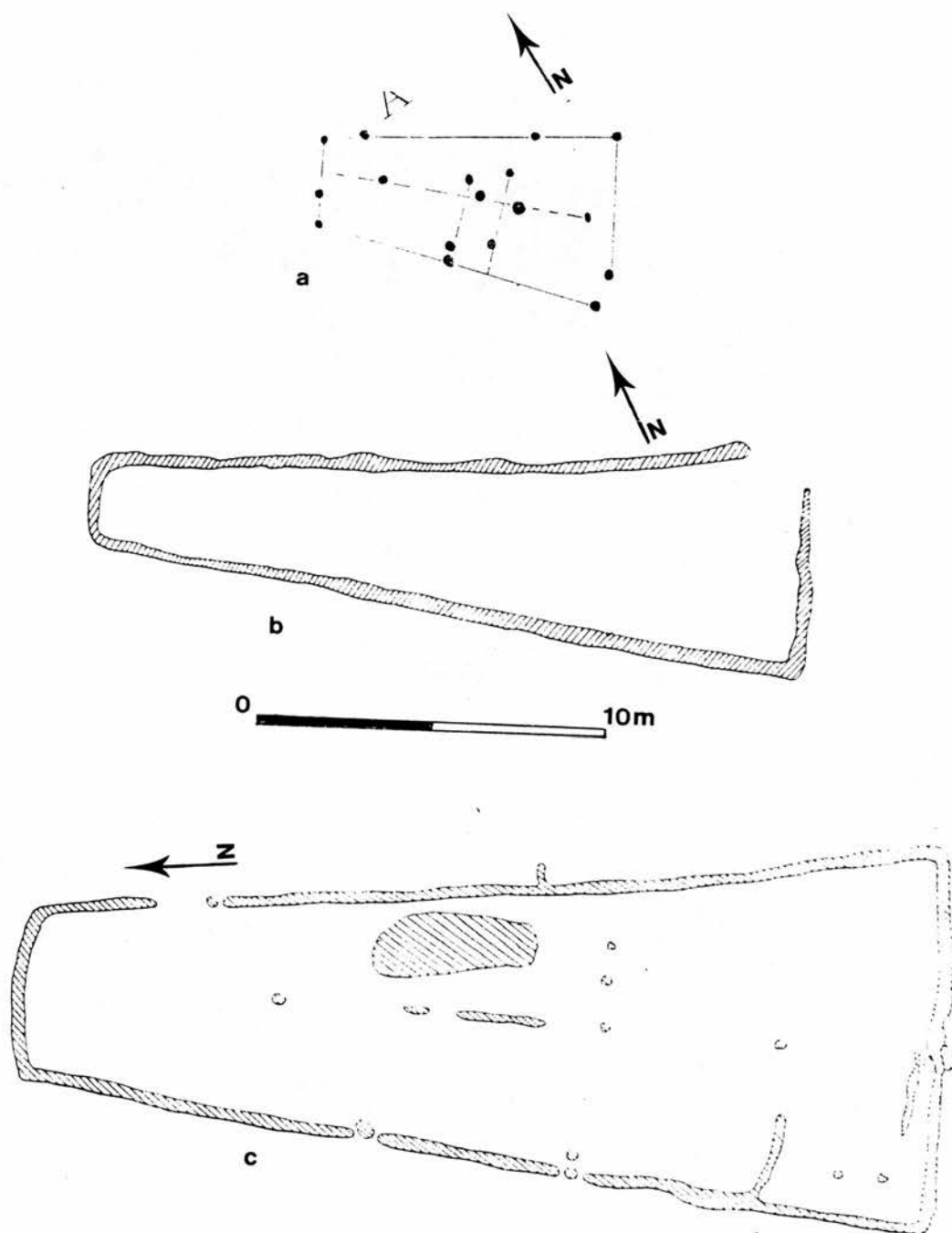


Fig. 101 Plans of trapezoidal long houses of the *Late LBK* in Kujavia: a) Konary (phase Ib), b) Krusza Zamkowa (phase IIb), c) Dobieszowice (phase IIIc, various sources)

long barrows, located some distance from Kujavia, also display the same ground-plan characteristics. Thus asymmetrical trapezoids with wall concavity may be noted at Karsko (WPOM-15), Krępczewo (WPOM-20), Dolice (WPOM-10), Łupawa (WPOM-25), or Wollschow (MBG-28). Even further afield, in Denmark, the ground-plans of barrows such as Teglevaerks-gården (DNK-20), Skibshøj (DNK-17) and especially Harreby (DNK-6 - all these revealed bedding trenches with timber remains set within them) are so strongly reminiscent of the *Late LBK* trapezoidal houses that mere coincidence could hardly provide a satisfactory explanation.

Another aspect of comparison between long houses and earthen long barrows which deserves attention is the segmentation of the interior. Difficulties in interpreting the interior arrangements of the *Late LBK* houses are caused by the truncated preservation of the structures, which in most cases offer no evidence of the original ground level. The problems of determining whether internal features such as posts or transverse bedding trenches indicate structural roof supports, functional divisions within the house or possibly both, have recently been outlined in Illet's study of the Rössen houses (Illet 1980). These problems apply equally in the context of the *Late LBK* houses. Some division of the interior is to be expected, but it must also be borne in mind that such a division need not necessarily have been of a permanent nature (for example cloth or hide may have been suspended from the transverse roof beams and used as and when required) and as such may never appear in the archaeological record.

However, should we accept that interior features indicate, at least in some cases, structural and/or functional divisions, then the *Late LBK* houses may, in general, have had between two and four individual sections (fig. 101) although their number may also have depended upon the length of the building as much as on the number of persons occupying it at any given time.

Disregarding the more unusual sites of Barkaer (DNK-2) and Østergård (DNK-12), earthen long barrows with evidence of internal partitions may have been segmented by between one and three walls (of stone or timber). These divisions seem in general to be associated

with the part of the monument in which burial and other activities took place. Although the principle of segmentation within the earthen long barrow enclosures offers an additional argument in favour of a closer relationship with long houses it must be stressed yet again that strict parallels between the two are not apparent. The function of individual segments within the earthen long barrow enclosures, for which suggestions have been offered earlier (chapter 8), was clearly different from that of corresponding segments of the long houses, and the modelling of one upon the other would therefore be on a symbolic rather than a purely functional level.

The final aspect of comparison between the long houses and long barrows concerns the spatial relationship of individual structures within their respective locations. The Brześć Kujawski settlement is so far the only site where investigations have covered an area sufficiently large to reveal the spatial distribution of the houses. At present it also represents the only site with evidence for a prolonged and spatially extensive occupation, but investigations at Krusza Zamkowa (Czerniak 1980) suggest that the arrangements evident at Brześć Kujawski were not unique.

The spatial patterning of the Brześć Kujawski settlement, although it still requires a detailed study of the stratigraphic mosaic of multi-phase constructions, does nevertheless reveal general principles of settlement organisation (Gabałówna 1966, Grygiel 1979) which are of particular importance in the present context. The individual houses may be seen to cluster in groups and this arrangement is found in the earlier and later phases (houses with intermittent bedding trench/houses with complete bedding trench, Fig. 102). Moreover, Gabałówna observed two interesting facts. Firstly, houses frequently form clusters of three (for example complex B, nos. 11,13, 15; complex D, nos. 8,12 20; complex A, nos. 2,4,6). Secondly, the houses which form an individual complex are placed in such a way that the neighbouring outside walls run roughly parallel to one another; within each cluster of three the distances between the houses are the same, each house in a group thus having a slightly different orientation (Fig. 102).

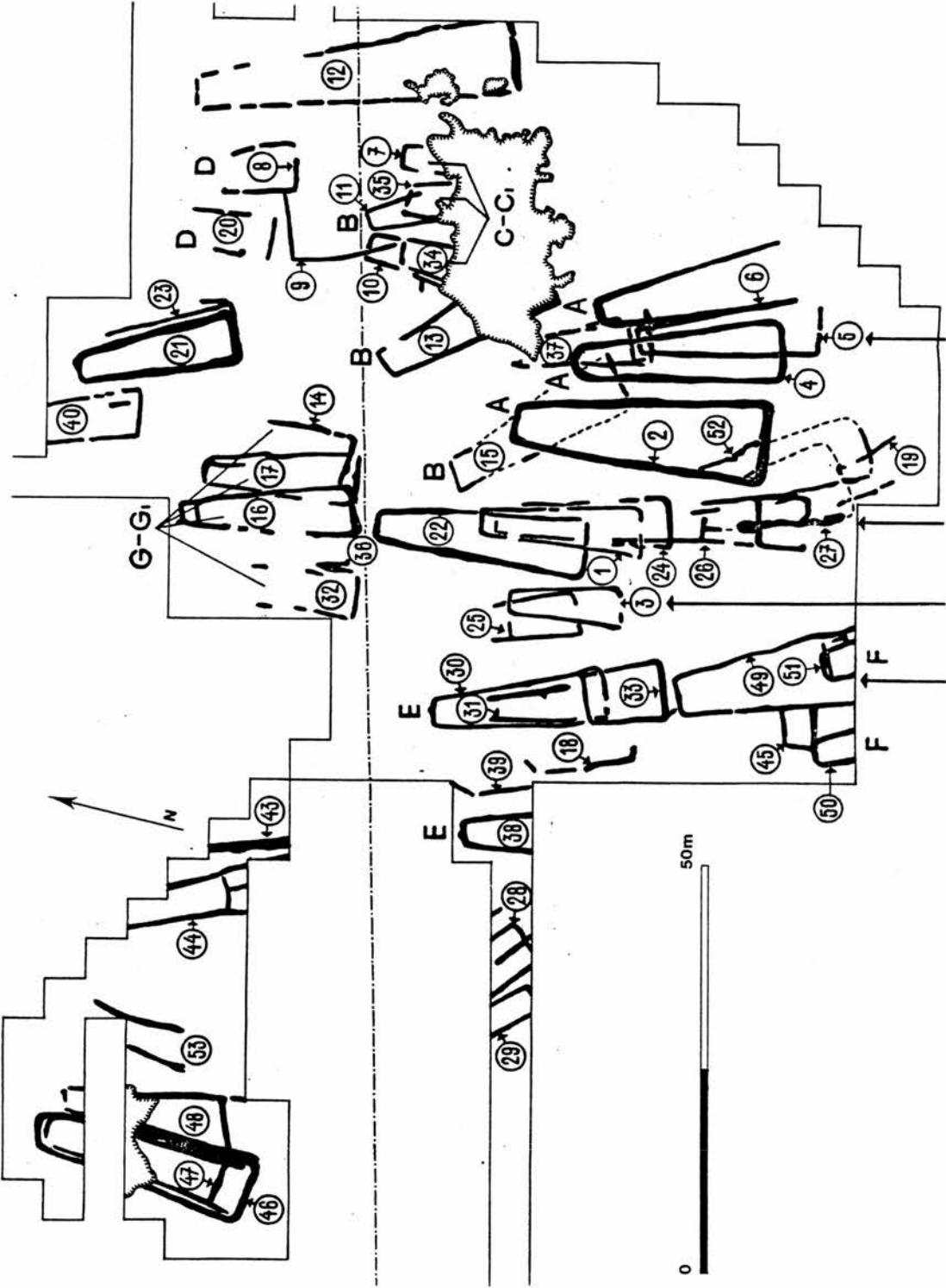


Fig. 102 Plan of the Brześć Kujawski settlement (after Gabalowna 1966)

Investigation of the spatial patterning of earthen long barrows within the 'cemeteries' is possible for five of the Kujavian sites - Leśniczówka (KUJ-17), Obałki (KUJ-22), Sarnowo (KUJ-32), Wietrzychowice (KUJ-45) and Zberzynek (KUJ-49). At each site there is a cluster of three barrows (two such clusters at Sarnowo) and this consistency gives the impression that the adjacent groups of two barrows at Wietrzychowice and Zberzynek (Fig. 46), as well as single barrows at Leśniczówka, Obałki and Wietrzychowice, also form unfinished clusters. Sarnowo group three (nos. 8 and 9) seems to have a barrow missing in the middle (Fig. 47). There is a clear spatial distinction between each group of barrows, and within each cluster of three the monuments are, in so far as local topography allowed, placed roughly the same distance from one another and with their long walls running parallel (for example Sarnowo, KUJ-32/1, and 2, 4 and 5; Wietrzychowice, KUJ-45/3, 4 and 5; Obałki, KUJ-22/1 and 2). This arrangement, moreover, accounts for a slight difference in individual orientations (fig. 45). At the same time the wider ends of the barrows are not placed in a straight line but staggered a little, in precisely the manner characteristic of the Brześć Kujawski houses (Fig. 102). Small discrepancies, usually in one barrow of the group, may be explained in terms of local topography. This is clearly seen at Sarnowo, where barrow 32/3 was placed on a ridge of a slightly different orientation from that carrying barrows 32/1 and 2. The clustering at Sarnowo is further confirmed by idiosyncracies of design peculiar to each group (chapter 7). At Zberzynek (KUJ-49; Fig. 46), although it reveals a similar clustering of three barrows, shows them radiating away from one another, but a more recent contour survey of the area suggests that nos. 1 and 2 may have been parallel to one another (Gorczyca 1981, Fig. 3).

Further afield, in Western Pomerania, a similar arrangement of barrows placed in groups of two or three may be inferred from von Plön's sketches, especially in the vicinity of Przelevice (WPOM-37, Prillwitz), Myśliborki (WPOM-28, Mützelburg) and Letnin (WPOM-24, Letnin; Fig. 25). However, the plans are not sufficiently detailed to be compared with the barrow arrangements in Kujavia. At Karsko



(WPOM-15) two earthen long barrows run parallel to one another (Fig. 77) and a similar location of two adjacent barrows is known from Horndorf (LSAX-3; Sprockhoff 1975, Fig. 14). The clustering of barrows is also typical of the Sachsenwald group (Fig. 32), where some parallel location may be observed.

The above comparative discussion of Kujavian long houses of the *Late LBK* and long barrows of the *TRB* culture has startling implications. Short of the discovery of a long barrow constructed upon a disused long house, the situation evidenced in Kujavia offers the strongest arguments yet for accepting the derivation of the earthen long barrow from the long house. Not only are the Kujavian long barrow 'cemeteries' built contemporaneously with, and in close proximity to, long-house villages, but the structures also resemble one another in dimensions, ground-plan and spatial arrangement within the groups. There can no longer be any question of the Kujavian long barrows having originated from the 'tent-like' houses of the *TRB* (Kośko 1977) - a theory for which no evidence exists - or of their having spread from the west (Jażdżewski 1970a, 36). The above survey reveals that the similarities between the Kujavian earthen long barrows and local long houses are so striking as to exclude the possibility of accidental or purely superficial resemblance.

That the earthen long barrows were not, however, merely slavish copies of long houses is evident from the study of the barrows themselves. The long house ground-plan serves as a basic model for the layout of the trapezoidal part of the barrow, and indeed the long house seems to have provided the initial ideas and stimuli for the construction of earthen long barrows (see below). Existence of the second constructional element - the 'long tail' - suggests a deliberate architectural elaboration of the available prototype. The 'long tail' element is consistently present in Kujavia, common in Western Pomerania but observed to a lesser degree in more distant regions - Mecklenburg, Lower Saxony and Denmark - where trapezoidal and rectangular forms are predominant (chapter 7). The existence in Western Pomerania of a typical Kujavian form side by side with rectangular and trapezoidal forms may be related to the evolution of a Kujavian form from

pronouncedly triangular to trapezoidal; triangular examples in Western Pomerania do not reveal the exaggeration of shape that seems typical in Kujavia. On the other hand, although direct evidence is as yet not available, it is possible that similar developments (*e.g.* the adaptation of Rössen long house features in North German long barrows) were taking place in other areas of the *TRB* culture's distribution, and east-west contacts across the North European Plain would account for the multiplicity of barrow forms. However until more detailed evidence, especially of chronological value, is available from Western Pomerania and Northern Germany this problem may not be solved.

The reasons for the architectural elaboration of a basic long house plan by the addition of a 'long tail' segment are difficult to determine. There is no evidence to suggest that the 'long tail' was developed for structural reasons (chapter 7) and the answer must be sought in the functional interpretation of the long barrows.

Fundamental to the interpretation of the role of the earthen long barrows within the *TRB* culture is the assumption of their multiple function (chapter 2). That burial played an important role is clear from the regular appearance of mortuary remains throughout the entire distribution area and the whole duration of the earthen long barrow tradition (chapter 9). Attention directed towards burial is shown in the variety and complexity of grave structures, the elaborate rituals accompanying the actual interment and the funerary use of the majority of enclosures over a long period of time. The difficulty in interpreting the funerary role of the earthen long barrows lies in our inadequate understanding of the relationship between the burial and the earthen long barrow within which it was contained. Was it the burial itself which required an elaborate setting, *i.e.* within a stone or timber enclosure, or was it the monumental function of the earthen long barrow which had to be sanctified by the inclusion of a burial in its interior?

The actual burial mode - of individual extended inhumation - was deeply rooted in the indigenous Mesolithic tradition and there is little difference between the interments found in the barrows and those known from flat graves (chapter 9). Apart from the barrows

themselves there is nothing to suggest that the individuals thus buried were of greater social importance than those found in flat graves, and the inadequacy of attempts to interpret the social order on such a basis has already been explained (chapter 2). Should we accept, on the other hand, that the proper functioning of the barrow depended on the inclusion of a burial - which, moreover, had to conform to a certain predetermined ritual - then the social importance of the individuals buried therein may have been a secondary consideration. In view of our knowledge of the *TRB* culture in general, and of the earthen long barrow in particular, this latter interpretation seems, on present evidence, more plausible.

Although similarities between the North European earthen long barrows and long houses clearly imply the derivation of one from the other, this resemblance does not in itself explain the reasons for adopting the long house as a model for a funerary structure. An interpretation in terms of the translation of the house for the living into a house for the dead (Reed 1974, 42) is only partially satisfactory. Evidence from the barrows themselves suggests that activities which were not directly associated with burial ritual also took place within the earthen long barrow enclosures. If indeed the concept of the house for the dead was present in the minds of the builders, the placement of burials within disused *TRB* domestic structures, which is also evidenced in the barrows (chapter 8), offers a more likely explanation for such a practice. It is necessary therefore to look for a plausible explanation of the long house/long barrow relationship beyond the funerary function of the latter.

Current interpretation of the monumental as opposed to the purely funerary function of the earthen long barrows views the monuments as symbolic expressions which embody the social, economic, political and ritual principles of a community within a complex network of inter- and intra-group relationships. That the inter-group relationships were becoming increasingly complex, possibly accelerated by pressure on land resources, is evident in the fact that, while central European *LBK* and *LBK*-derived societies do not engage in monumental constructions, the erection of long barrows and other

large-scale funerary monuments is carried out by communities which in their composition fuse elements of the Mesolithic and *LBK* traditions. This process is noted as clearly in Brittany as in Kujavia.

Considering the degree of mobility within the *TRB* culture complex, induced by a specific economic strategy which was a result of the above-mentioned fusion of mobile Mesolithic and sedentary *LBK* systems (chapter 5), there may indeed have existed a strongly-felt need to communicate, both within and outside a group, the idea of corporate solidarity and permanence. A readily available symbol of permanence was undoubtedly present in the form of settlement of the *Late LBK*. Within the life-span of any one generation a village of solidly-built timber long houses must have given an impression of social cohesion and permanence. While the economic, social and cultural character of the *TRB* communities was not conducive to the construction of a settlement which required a substantial investment of time and labour, the adoption of a permanent symbol associated with burial ritual would have fulfilled such a need. This concept of permanence may have become even more emphatically expressed by the transformation of a timber building into a solid construction of stone and/or timber and earth.

But, if the information encoded within a long barrow were to be clearly recognisable, the long barrow had to be different from a long house and elaboration of a standard form may have been necessary. Thus an architectural development from a strictly trapezoidal to an elongated triangular form distinguished clearly between two different cultural systems, while preserving the associations which had stimulated the borrowing process: the original shape, size and arrangement within the landscape.

With regard to the 'earthen long barrow cemeteries', not enough information exists at present to interpret the pattern inherent in the barrow clusters. The 'cemeteries' may have been used by one community over a long period of time, repeating a three-barrow arrangement; or they may have been shared by several neighbouring communities, each with its own barrow cluster. The cultural material associated with barrows at any one 'cemetery' is not of sufficient quality for

such interpretation and it is indeed perfectly possible that, depending on circumstances, both processes could have taken place over a certain period of time. Taking into consideration the clustered distribution in regions where evidence exists for co-existence with the *Late LBK* communities (Kujavia, Western Pomerania and possibly the Sachsenwald) and considering also the dispersed barrow distributions where so far such evidence has not come to light (Denmark, possibly Mecklenburg), the key to interpretation of this disparity may indeed lie in the local relationships between these two cultural systems.

The currently available evidence from the *TRB* and *Late LBK* (or Rössen) settlement of the North European Plain is not sufficiently detailed to determine the precise relationship between these contemporaneous cultural complexes. On the whole the *TRB* and *Late LBK* settlements seem to be related to the exploitation of mutually exclusive environments (chapters 4 and 5). Nevertheless indications exist in Kujavia that there may have been some movement of the *Late LBK* out-with the 'black earth' zone (Czerniak 1980, Kośko 1982). In this context it is interesting to observe that from the very beginning of their construction the earthen long barrows are located in areas of abandoned *TRB* settlement, where possible directly upon the settlement sites themselves. The implications of this practice in terms of burial ritual have already been discussed (chapter 7). In terms of distribution within the natural and cultural landscapes such preferential location, which occurs in all regions where earthen long barrows are in evidence, may indeed reflect a growing land shortage and a need to express the right to occupy and use specific territories.

\* \* \*

One of the main aims of this study has been to consider the phenomenon of the North European earthen long barrows as a whole. The communities engaged in the construction of these monuments were part of a diverse cultural complex - that of the *TRB* culture. This diversity may be seen in regional and local developments, individu-

ality of form, and in the architectural and ritual elements evidenced in the earthen long barrows of different regions. But the cross-regional study of these monuments enables us to distinguish a large number of factors which are characteristic of earthen long barrows throughout the area and which strongly support the idea of a common North European earthen long barrow tradition.

APPENDIX 1.

List of radiocarbon dates used or referred to in the text.  
Half-life as in *Radiocarbon*; *i.e.* 5568+30 up to and including volume 3, subsequently 5570+30. The following abbreviations are used:  
L&M 1977 - Lanting and Mook 1977  
M&K 1977 Milisauskas and Kruk 1977.



SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
<u>MESOLITHIC</u>				
<u>The Netherlands (selected)</u>				
Bergumermeer	GrN-6845	5990±75	charcoal from hearth	L&M 1977
Swifterbant S11	GrN-7215	4380±45	charcoal from hearth	L&M 1977
Swifterbant S11	GrN-7214	4335±45	charcoal from hearth	L&M 1977
Hazendonk I	GrN-6215	3370±40		L&M 1977
<u>Northern Germany (selected)</u>				
Ellerbek	Y-440	4110±200	worked wood	L&M 1977
Ellerbek	KI-152	3220±110	oak stump - final Meso.	L&M 1977
Förstermoor	?	3830±160		L&M 1977
Lietzow-Buddelin	Bln-560	3420±120	charcoal, upper layer	L&M 1977
Lietzow-Buddelin	Bln-5815	3865±100	charcoal, upper layer	L&M 1977
Ralswiek-Augustenhof	Bln-562	3505±100	charcoal, culture layer	L&M 1977
Südensee-Damm	KN-137	4010±80	wood, cultural layer	L&M 1977
	GrN-6588	4075±90	as above	L&M 1977
Südensee-Damm	KN-139	3930±65	as above	L&M 1977
	GrN-6590	4065±90	as above	L&M 1977
<u>Denmark (selected)</u>				
Ertebølle	K-1529	3810±100	shell, from midden	Radiocarbon 15
Ertebølle	K-1530	3710±120	shell, from midden	Radiocarbon 15
Ertebølle	K-1531	3710±120	shell, from midden	

SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
Ertebølle	K-1534	3630±110	shell, midden	Radiocarbon 15
Ertebølle	K-1533	3620±110	shell, from midden	Radiocarbon 15
Ertebølle	K-1532	3600±110	shell, from midden	Radiocarbon 15
Ertebølle	K-1535	3160±100	shell, from midden	Radiocarbon 15
Norslund	K-990	3780±120	charcoal, cultural layer	L&M 1977
Norslund	K-991	3730±120	charcoal, cultural layer	L&M 1977
Ringkloster	K-1652	3660±110	charcoal + antler axe	Andersen S.H. 1975
Ringkloster	K-1765	3550±100	tree trunk of oak	Andersen S.H. 1975
Ringkloster	K-1653	3540±100	charcoal + T axe	Andersen S.H. 1975
Ringkloster	K-1654	3370±100	charcoal, upper layer	Andersen S.H. 1975
Salpetermose	K-1232	4000±120	charcoal from hearth	L&M 1977
Salpetermose	K-1233	4070±100	charcoal from hearth	L&M 1977
Salpetermose	K-1234	3830±120	charcoal from hearth	L&M 1977
Salpetermose	K-1235	3460±120	charcoal from hearth	L&M 1977
Sølager	K-1723	3570±110	oak charcoal, low lwwvl	Skaarup 1973
NEOLITHIC				
<u>Linearbandkeramik (selected)</u>				
Elsloo	GrN-2311	4560±100	charcoal from grave	L&M 1977
Elsloo	GrN-2884	4105±80	charcoal from grave	L&M 1977
Geleen	GrN-995	4420±70	charcoal from pit	L&M 1977
Geleen	GrN-996	4225±70	charcoal from pit	L&M 1977
Olszanica	M-2314	4750±220	charcoal from pit	Kruk 1980

SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
Olszanica	GrN-5384	4480±75	charcoal from pit	Kruk 1980
Olszanica	M-2011	4350±400	charcoal from 2 pits	Kruk 1980
Olszanica	GX-2639	4145±350	charcoal from pit	Kruk 1980
Olszanica	GX-2638	4050±340	charcoal from pit	Kruk 1980
Sittard	GrN-423	4250±150	charcoal, pit near house	L&M 1977
Sittard	GrN-422	3840±190	charcoal, pit near house	L&M 1977
Strzelce	GrN-5087	4310±60	charcoal, pit with rubbish	Bakker <i>et.al.</i> 1969
Tomaszów	GrN-7050	3945±40	charcoal, shaft 1	Lech 1981b

Stichbandkeramik/Lengyel culture (selected)

Hienheim	GrN-4832	3830±85	charcoal from pit	Radiocarbon 9
Iwanowice	GrN-5977	3905±40		Kruk 1980
Zwenkau	H-224/223	4050±115	charcoal from post hole	Behrens 1973
Zwenkau	Bln-60	3950±100	as above	Behrens 1973
Zwenkau	K-555	3890±120	as above	Behrens 1973

Rössen (selected)

Deiringsen/Ruploh	KN I-759	3940±74	pit next to house	L&M 1977
Deiringsen/Ruploh	KN I-583	3870±120	pit next to house	L&M 1977
Inden	KN-330	3990±200		L&M 1977
Wahlitz	GrN-433	3350±200	charred grain	L&M 1977
Hüde (Rössen/Bischheim)	Hv-1793	3665±95	food on pottery	L&M 1977
Hüde	Hv-814	3615±85	post of a house	L&M 1977

SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
Hűde	KN-31/963	3560±160	charred post	L&M 1977
Hűde	Hv-816	3475±350	charcoal in pot	L&M 1977
Hűde	Hv-317	3480±80	post of a house	L&M 1977
Hűde	Hv-1231	3300±95	food on pottery	L&M 1977
Hűde	Hv-1230	3260±155	food on pottery	L&M 1977
<i>Late Linearbandkeramik (selected dates from Kujavia)</i>				
Krusza Zamkowa, site 3	Bln-1810	3730±60	rubbish pit/phase Ia	Jankowska <i>et.al.</i> 1979
Krusza Zamkowa, site 3	Bln-1809	3615±100	rubbish pit/ phase Ia/IIb	Jankowska <i>et.al.</i> 1979
Kościelec Kujawski	Gd-324	3447±160	phase IIb	Bednarczyk <i>et.al.</i> 1980
Krusza Zamkowa	Bln-1811	3380±65	grave, collagen/ IIb/IIIa	Jankowska <i>et.al.</i> 1979
Broniewice, site 1	Bln-1312	3110±60	rubbish pit/phase IIIb	Jankowska <i>et.al.</i> 1979
<u>Other relevant dates</u>				
Dűmmer	Hv-1220	4110±115	Meso/Neo transition?	L&M 1977
Swifterbant S2	GrN-5606	3590±65	grave, collagen	L&M 1977
Swifterbant S2	GrN-5443	3350±40	charcoal assoc. grave	L&M 1977.

SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
<u>TRICHTERBECHERKULTUR</u>				
<u>North-western Germany</u>				
<u>Rosenhof phase</u>				
Rosenhof	?	3460±		Preuss 1980
Rosenhof	?	3440±		Preuss 1980
Rosenhof	KN I-500	3430±40	in vic. of Michelsberg pot	Schwabedissen 1979a
Rosenhof	KN-2135	3420±50	layer with pot with grain impression	Schwabedissen 1979a
Rosenhof	KN-2334	3390±55	Baalberge amphora?	Schwabedissen 1979a
Rosenhof	?	3280		Preuss 1980
Rosenhof	KN-	3250	above E/E levels?	Schwabedissen 1972
<u>Satrup phase</u>				
Südensee-Damm	Y-472	3010±50		L&M 1977
Südensee-Damm	KN-667	2880±70	wood sample C	L&M 1977
Südensee-Damm	GrN-6589	2865±65	wood sample A	L&M 1977
Südensee-Damm	GrN-6592	2850±85	wood sample C	L&M 1977
Südensee-Damm	KN-138	2790±75	wood sample A	L&M 1977
Südensee-Damm	GrN-6591	2760±85	wood sample B	L&M 1977
Südensee-Damm	KN-666	2660±60	wood sample B	L&M 1977

SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
<u>Satrup phase (?)</u>				
Dümmer (Hüde)	Hv-373	2890±130	TRB pottery with cord ornamentation (?)	Deichmuller 1969
Dümmer (Hüde)	Hv-813	2790±70		Deichmuller 1969
Heidmoor	H-49/146	3190±115		Bakker <i>et.al.</i> . 1969
Heidmoor	H-30/145	3070±105		Bakker <i>et.al.</i> . 1969
<u>Fuchsberg phase</u>				
Fuchsberg	KN-	2910±80	settlement (?)	L&M 1977
<u>North-eastern Germany</u>				
Schönermark	KN-	3155±70		Bakker <i>et.al.</i> . 1969
<u>Central Poland (Kujavia)</u>				
<u>Sarnowo phase</u>				
Sarnowo	GrN-5035	3620±60	charcoal from pit cut by central grave	Bakker <i>et.al.</i> . 1969
<u>Wiórek phase (late/transition to Lubon?)</u>				
Radziejów Kujawski	M-1846	2910±200	burnt wheat assoc. with charcoal from pit	Bakker <i>et.al.</i> . 1969
Radziejów Kujawski	GrN-5045	2760±40	burnt wheat	Bakker <i>et.al.</i> . 1969
Radziejów Kujawski	Lodz-	2720±380	burnt wheat	Bakker <i>et.al.</i> . 1969
Zarębów	GrN-5044	2675±40	charred apples from pit	Bakker <i>et.al.</i> . 1969
Radziejów Kujawski	M-1845	2640±190	burnt wheat assoc. with charcoal from pit	Bakker <i>et.al.</i> . 1969

SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
<u>Northern Poland (Western Pomerania)</u>				
Łupawa	Bln-1814	4110±80	charcoal from mound of barrow WPOM-25/29	Jankowska <i>et.al.</i> . 1979
Łupawa	Bln-1593	3780±45	charcoal from mound of barrow WPOM-25/28	Jankowska <i>et.al.</i> . 1979
Łupawa	Bln-1313	2075±60	hearth next to barrow WPOM-25/16	Jankowska <i>et.al.</i> . 1979
Poganice	Bln-1460	4475±40	pit form settlement	Jankowska <i>et.al.</i> . 1979
Poganice	Bln-1495	2345±70	hearth from settlement	Jankowska <i>et.al.</i> . 1979
<u>South-eastern Poland (selected)</u>				
Bronocice	DIC-714	3110±110		Kruk 1980
Gródek Nadbużny	KN-243	3100±160	charcoal in pit - assoc. with Wiorek-like pottery	Bakker <i>et.al.</i> . 1969
Bronocice	DIC-362	2990±125	charcoal from pit 39	M&K 1977
Ćmielów	GrN-5087	2875±40	charcoal from pit	Bakker <i>et.al.</i> . 1969
Bronocice	DIC-542	2850±70	charcoal from pit 101	M&K 1977
Niedźwiedź	Bln-927	2765±100		Radiocarbon 14
Ćmielów	GrN-5090	2750±40	charcoal from pit	Bakker <i>et.al.</i> . 1969
Bronocice	DIC-718	2740±75	charcoal from pit 15	M&K 1977
Ćmielów	H-566/592	2725±110	charcoal from pit	Bakker <i>et.al.</i> . 1969
Ćmielów	GrN-5036	2700±40	charcoal from pit - assoc. with <i>ansa lunata</i> pot	Bakker <i>et.al.</i> . 1969



SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
Niedźwiedź	M-2323	2690±190	charcoal from pit	Radiocarbon 14
Ćmielów	GrN-5088	2665±40	charcoal from pit	Bakker <i>et.al.</i> 1969
Bronocice	DIC-716	2660±120		Kruk 1980
Niedźwiedź	M-2322	2650±190		Radiocarbon 14
Bronocice	DIC-360	2650±75	charcoal from pit 104	M&K 1977
Bronocice	DIC-363	2570±60	charcoal from pit - assoc. with <i>ansa lunata</i> pot	M&K 1977
<u>Southern TRB group (selected)</u>				
Baalberge (?)				
Kmhlen (?)	Bln-231	3410±160	grain from pit	Radiocarbon 8
Brézno	GrN-8803	3140±45	grave LXXIII	Pleinerová 1980
Polstoloprty	Bln-482	2980±80		Bakker <i>et.al.</i> 1969
Salzmünde (?)				
Dölauer-Heide	H-209/579	3020±90	charcoal, pallisade trench	Radiocarbon 6
Dölauer-Heide	Bln-64	2830±100	charcoal, pallisade trench	Radiocarbon 6
Dölauer-Heide	Bln-53	2630±100	charcoal, pallisade trench	Radiocarbon 6
<u>Denmark (selected, ceramic phase in bracket)</u>				
Konens Høj (A?)	K-923	3310±100	charcoal, settl. layer	Stürup 1966
Mosegården (B)	K-	3130±90	pre-barrow layer	Madsen <i>pers.comm.</i>

SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
Lindebjerg (B)	K-1659	3060±100	charcoal from feat. C	Liversage 1980
Praestelyngen (A or C)	K-1473	3060±100	wood (canoe)	Radiocarbon 5
Rustrup (C)	K-2254	3020±100	charcoal from facade	Fischer 1976
Praestelyngen (A or C)	K-1650	3010±110	wood (canoe)	Radiocarbon 5
Norsminde (B)	K-	3010±	settlement layer	Skaarup 1975
Muldbjerg (A)	K-129	2990±160	hazelnut, cult. layer	Radiocarbon 2
Mosegården (B?)	K-	2980±90	pre-barrow layer (?)	Madsen <i>pers. comm.</i>
Rustrup (C)	K-2255	2970±100	charcoal, grave 2	Fisher 1976
Rude (B)	K-3124	2960±90	carb. strip of facade	Madsen 1980
Muldbjerg (A)	K-128	2960±160	hazelnut, cult. layer	Radiocarbon 2
Rustrup (C)	K-2253	2960±100	post-traces, facade	Fischer 1976
Praestelyngen (A or C)	K-1651	2940±110	moss	Radiocarbon 5
Muldbjerg (A)	K-126	2930±170	bark in cult. layer	Radiocarbon 2
Konens Høj (C)	K-919	2900±100	grave	Sturup 1966
Muldbjerg (A)	K-127	2900±120	peat	Radiocarbon 2
Rude (B)	K-3125	2860±70	facade, twig	Madsen 1980
Sarup (Fuch)	K-2632	2810±90	oak wood	Bakker 1979
Sarup (Fuch)	K-2629	2740±90		Bakker 1979
Muldbjerg (A)	K-123	2730±120		Radiocarbon 2
Muldbjerg (A)	K-132	2710±150		Radiocarbon 2
Sølager (B or C)	K-1724	2700±100	charcoal, settl. layer	Skaarup 1973
Sarup (Fuch)	K-2631	2670±90	oak wood	Bakker 1979

SITE	LAB. NO.	DATE (bc)	CONTEXT	SOURCE
Lohals (C)	K-	2670±100		Skaarup 1975
Muldbjerg (A)	K-131	2660±150		Radiocarbon 2
Sarup (Fuch)	K-2630	2650±90	oak wood	Bakker 1979
Muldbjerg (A)	K-124	2650±170		Radiocarbon 2
Sarup (Fuch)	K-2628	2630±70	charred grain	Bakker 1979
Rude (B?)	K-3123	2310±85	cist 1	Madsen 1980
<u>Other relevant dates</u>				
Tumulus de Mont-				
St-Michel, Carnac	Sa-96	3770±300	charcoal in mound	Radiocarbon 6
Tumulus de Mont-				
St-Michel, Carnac	Gsy-89	3030±150	charcoal in mound	Radiocarbon 6
Le Grée de Coujoux,				
Saint-Just	Gif-5458	3710±120	hearth under mound	Le Roux 1981
Le Grée de Coujoux,				
Saint-Just	Gif-5456	3630±120	hearth under mound	Le Roux 1981
Le Grée de Coujoux,				
Saint-Just	Gif-5457	3600±120	hearth under mound	Le Roux 1981
Les Fouaillages	BM-1892	3640±50	charcoal of phase 2	Kinnes 1982
Les Fouaillages	BM-1893	3560±60	charcoal of phase 2	Kinnes 1982

SITE	LAB. NO.	DATE (bc)	CONTEXT
GREAT BRITAIN (selected dates from British earthen long barrows, in alphabetical order, source of all dates - Archaeological Site Index to Radiocarbon Dates for Great Britain and Ireland up to 1977)			
Beckhampton Road	NPL-138	3250±160	charcoal under mound
Beckhampton Road	BM-506b	2517±90	antler from buried soil surface
Beckhampton Road	BM-506a	2307±90	as above
Dalladies	I-6113	3240±105	charred wood from mort. house (phase 2)
Dalladies	SRR-289	2710±50	as above
Dalladies	SRR-290	2582±55	as above
Fussell's Lodge	BM-134	3230±150	charcoal with burnt flint over primary burials
Giants' Hills	BM-191	2460±150	antler (collagen)
Giants' Hills	BM-192	2370±150	antler (collagen), diff. sample
Kilham	BM-293	2880±125	charcoal from bedding trench, E facade
Lambourn	GX-1178	3415±180	burnt wood under primary rubble of ditch
Nutbane	BM-49	2730±150	charcoal from post-holes of 2nd forecourt building
South Street	BM-356	2810±130	charcoal on buried surface under mound
South Street	BM-357	2750±135	Bos sp. bone on ditch bottom
South Street	BM-358a	2670±140	antler on ditch bottom
South Street	BM-358b	2580±110	Antler embedded in mound

APPENDIX 2.

Catalogue of the North European earthen long barrows arranged under the following regions: Kujavia (KUJ), Western Pomerania (WPOM), Mecklenburg (MBG), Lower Saxony (LSAX), Denmark (DNK), Little Poland (LPOL) and Saxony (SAX). The following abbreviations are used:

Loc. - location

Des. - description

Bib. - bibliography

elb - earthen long barrow

L. - length

W. - width

H. - height

Orient. - orientation

OLS - old land surface.

Other abbreviations are self-explanatory.

## KUJAVIA

BORZYMIE, distr. Włocławek

KUJ - 1

Des.: Unknown number of triang. elbs.

Bib.: Chmielewski (1952) 51; No. 44.

BYCZYNA, distr. Radziejów Kujawski

KUJ -2

Des.: Several elbs, one excavated.

Bib.: Wiślański - pers. com.

CZARLIN, distr. Wągrowiec

KUJ - 3

Des.: Mid-19th century report mentions 3 long stone alleys, possibly  
3 elbs.

Bib.: Chmielewski (1952) 96; No. 70.

CZARNOCICE, distr. Nieszawa

KUJ - 4

Loc.: E of the Głuszyn Lake.

Des.: Several elbs; one yielded skeletal burial and two vessels,  
another human bones and pottery sherds.

Excav. von Erckert 1880.

Bib.: Chmielewski (1952) 44-45; No. 30.

DZIEWIERZEWO, distr. Żnin

KUJ- 5

Des.: Elbs, unknown number.

Bib.: Chmielewski (1952) 96; No. 71.

FALISZEWO, distr. Nieszawa

KUJ - 6

Loc.: N edge of the Głuszyn Lake.

Des.: 1 elb; L. 25m + ; W. 15m: H. 3m: Orient. N-S.

Stone pavement noted in the middle, and next to it remains of  
5 burials (2 adults, 1 child, 2 infants?), concretions of chalk.

Excav. Von Erckert 1880.

Bib.: Chmielewski (1952) 45-46; No. 31.

GAJ, distr. Koło

KUJ - 7

Loc.: 300m W of the Długie Lake and to S of peaty, boggy meadows of the Noteć river. On a small elevation in sandy environment.

Des.: 2 elbs, one destroyed beyond recognition;

7/1 L. 55m (+ 70m) = 125m; W. 10,5m; H. 2m; Orient. E-W.

Mound - constructed entirely of clay, seriously damaged in 19th century.

Kerb - E end constructed of 3 large boulders, a gap in the middle (entrance?) blocked with small field stones. Both of the long walls deviate in their course at about 27m from E end.

Interior structures - Immediately within the E end a roughly rectang. clay floor, 3-4,4 x 5m and 0,25m deep into OLS. Post-holes were found at each corner and in the middle of all walls (oak posts?). Walls constructed by rebating horizontal planks into timber uprights. Construction of E wall not certain - middle post-hole excessively large in comparison with the rest (no section available). Suggested roof - tent-like.

Grave 1 - 13m from E end. Extended inhumation laid out directly on OLS? Assoc. finds - 1 retouched blade of Bug flint.

Grave 2 - 40m from E end. Extended inhumation laid out directly on OLS? Legs spread out and arms crossed over the chest. No assoc. finds.

Earlier settlement - below OLS many fragments of pottery (4500 sherds) of the Pikutkowo phase (collared flasks).

Throughout the mound some Wiórek sherds.

Excav. Chmielewski 1950.

Bib.: Chmielewski (1952) 86-92; No. 58: Figs. 49-60.

IŁOWO, distr. Nieszawa

KUJ - 8

Loc.: E of Iłowo, forms a part of a larger complex with KUJ - 9-11

Des.: Possibly 3 elbs, only one excavated (could be trapez.).

8/1 L. 18m +; W. 8m; Orient. S-N.

Kerb - very large boulders at S end; transverse stone row at 3m from S end; remains of other structures?



Grave 1 - 7m from S end. Extended skeleton, directly on OLS, head N.

Grave 2 - 8m from S end. Extended skeleton on OLS, head NW.

Grave 3 - 9m from S end. Extended skeleton of a child, on OLS, head W.

Other possible structures - area enclosed by smaller stones in 1st compartment contained black earth, pottery sherds and animal bones (remains of a timber structure?).

Excav. Kozłowski, L. 1920.

Bib.: Chmielewski (1952) 46; No. 32; Fig. 11

Kozłowski, L. (1921) 11-13; No. 112.

JANISZEWEK, distr. Włocławek

KUJ - 9

Loc.: On N bank of Zgłowiączka river.

Des.: A group of at least 11 elbs in two concentrations of 4 and 9 monuments.

9/1 L. 115m; W. 8m; Orient. E-W.

E end apparently consisted of double row of stones, surface of the mound covered with a stone mantle.

Grave 1 - 7m from E end, rectang. enclosure 3 x 4m, built of stones with one end open. At bottom a clay floor placed on a paving of small stones.

Excav. von Erckert 1879.

9/2 L. 60m; Orient. E-W.

Other barrows apparently contained stone pavements with extended skeletons underneath.

Bib.: Chmielewski (1952) 52-53; No. 45.

JANISZEWO, distr. Włocławek

KUJ - 10

Loc.: On the highest terrace of Zgłowiączka river, c. 100m from edge of the river valley, on S side opposite KUJ -11.

Des.: 3 elbs; all destroyed during road construction in early 20th century. Apparently E-W oriented.

Bib.: Chmielewski (1952) 53; No. 47.

JANISZEWSKIE DĘBY, distr. Włocławek KIJ - 11

Loc.: On the N side of Zgłowiączka river, forming one large complex with KIJ - 10 and possibly KIJ - 9.

Des.: 3 elbs, very badly damaged, all wider ends towards S.

Bib.: Chmielewski (1952) 53; No. 46.

JELENIĘC, distr. Chełmno KIJ - 12

Des.: 1 elb (destroyed). A flint axe found in late 19th century.

Bib.: Chmielewski (1952) 96; No. 73.

KOMOROWO, distr. Koło KIJ - 13

Des.: Until 1890 there was 1 elb, c. 80m long. Kerb stones were used in construction of local church.

Bib.: Chmielewski (1952) 92; No. 59.

KUBŁOWO, distr. Koło KIJ - 14

Des.: Possibly 2 elbs, (1) L. 40m; W. 10m; destroyed.

Bib.: Chmielewski (1952) 92-93; No. 60.

ŁANIA, distr. Włocławek KIJ - -5

Des.: Unknown number of elbs (at least 5) scattered around in fields.

Includes several individually mentioned monuments (Sadok, Sarnowo - note this is a different site from KIJ - 32, Zurawica).

Bib.: Chmielewski (1952) 80-83, 86; Nos. 53, 55-57.

LEMBARK, distr. Brodnica KIJ - 16

Des.: 1 elb, destroyed in 1850.

Bib.: Chmielewski (1952) 96; Nn. 72.

LEŚNICZÓWKA, distr Włocławek KIJ - 17

Loc.: 100m S of field road between Boniewo and Lubomin, on a sandy elevation; to S is wet, boggy meadowland reaching as far as the Głuszyn and Borzymie lakes.

Des.: A group of 5 (or more) elbs, located on a summit, in a fan-like arrangement.

17/1 L. 71,5m; W. 8,5m; H. 1,3m; Orient. NE-SW.

Kerb - set up directly on OLS, many stones fallen outwards.

Interior structures - 2 concentrations of stones, one between the grave and burnt area, other by S wall; only undisturbed OLS beneath.

'Hearth-midden layer' - 15m from NE end, to N of main axis, roughly rectang. area 2,3 x 1,9m; sandy layer of c. 0,3m thick containing pottery sherds; most sherds recovered in a barrow derive from this feature.

Grave 1 - 5m from NE end; rectang. pit 3,45 x 3,05m; 1m deep. Extended human skeleton with head to SW, poorly preserved. No grave goods.

17/2 L. 37m (poss. 70m); W. 9m; Orient. NE-SW.

Kerb - very badly damaged, only NE wall preserved.

'Hearth-midden layer' - centre 6m from NE end, rectang. area 4,5 x 4,5m max. width; 0,25m thick. SW edge at an angle; sharp, clear edges. Since it was termed 'hearth', presumably charcoal was found but not mentioned in report.

Other finds within this area: large quantity of pottery sherds (mainly beakers and amphorae), 42 flint implements (scrapers, 90% of chocolate flint), 1 copper ring (Jazdzewski 1936a, Fig. 550), animal bones ( 2 burnt), several pieces of daub.

On S side of 'hearth' 3 small pits 0,3m in diameter and 0,1m deep were found.

Grave 1 - to the E of 'hearth-midden', partly underneath it, rectang. pit 2,8 x 1,7m, 0,5m deep; loose stone pavement. No skeleton survived.

Grave 2 - underneath the 'hearth-midden'; along the main axis of the barrow. Rectang. very regular pit 2,8 x 1,3m, 0,3m deep; no skeletal remains.

17/3 L. 70m; W. 9m; Orient. NE-SW.

Kerb - preserved only for 15m from NE end.

Interior structures - c. 7m from NE end a line of stones lying transversely across the barrow may represent remains of a partition.

'Hearth-midden layer' - immediately inside the NE end, a roughly trapez. layer, 5 x 3-4,5m and 0,15m thick, of very black-grey, greasy soil with many charcoal pieces (at one point, over the grave 3, deepened to 0,7m); some pottery sherds and 2 pieces of animal bone (1 burnt).

Grave 1 - 7,5m from NE end - a rectang. pit 2,6 x 1,25m and 0,8m deep; 1 extended skeleton; a row of stones to N but still inside the pit. No grave goods.

Grave 2 - directly underneath the 'hearth-midden' layer, a rectang. pit 2,8 x 1,5m and 0,9m deep; 1 extended skeleton with head to SW, very badly preserved. Pit at NE end cut by intrusion from 'hearth-midden' (Jazdzewski 1936a, Fig. 987 - post-hole?); 1 flint blade.

Grave 3 - at NW end of 'hearth-midden' a skeleton of a 3-year-old child, extended, head to SW. Jazdzewski interpreted this as a sacrifice burial.

Throughout the mound pottery sherds and flint implements of chocolate flint were found; pottery diagnostic of the Pikutkowo phase.

17/4 L. 27,5m; W. 8,5m; Orient. NNE-SSW.

Very badly damaged elb.

Grave 1 - 5m from NNE end remains of a skeleton, very poorly preserved.

Bib.: Chmielewski (1952) 73-80; No. 49

Jazdzewski (1936a) 172-182; Figs. 974-991, 1082-1085.

LUBIENIEC, distr. Włocławek

KUJ - 18

Des.: Unknown number of elbs, scattered in the fields.

Bib.: Chmielewski (1952) 80; No. 50.

LUBOMIŁ PODUCHOWNY, distr. Włocławek

KUJ - 19

Loc.: On the edge of a boggy meadow, opposite KUJ - 22.

Des.: 5 elbs; best preserved apparently 12m wide.

Bib.: Chmielewski (1952) 80; No. 51.

LUBRANIEC, distr. Włocławek

KUJ - 20

Des.: 1 elb, destroyed.

Bib.: Chmielewski (1952) 80; No. 52.

NAWRA, distr. Toruń

KUJ - 21

Loc.: 1 km from the railway station, near boundary between Trzebcz and Nawra.

Des.: 3 elbs; destroyed in 1875.

21/1 L. 60m; W. 10m;

Kerb built of smallish stones.

21/2 L. 68m; W. 10m; Orient. NE-SW.

At the narrow end a circular arrangement of stones.

Bib.: Chmielewski (1952) 97; No. 75.

OBAŁKI, distr. Włocławek

KUJ - 22

Loc.: on a sandy elevation in a relatively flat landscape, 1km to W of large boggy meadows of the Noteć valley.

Des.: A group of 4 elbs - 3 close together, 4th about 200m to E.

22/1 L. 63m; W. 12m; H. 1,4m; Orient. E-W.

Mound - made of loosely piled sand.

Kerb - very badly preserved; change of angle of long walls at c. 27m from E end.

Interior structures - 13m from E end possible remains of a timber structure (?) which Chmielewski interpreted as remains of 'hearth-midden' layer; full of cultural debris.

Graves - probably 6 (only 5 marked in plan); Nos. 1-4 (and 6?) - all with rectang. pits and pavements: length 2,7-2,3m and width 1,7-1,3m.

Grave 5 - a rectang. stone-built enclosure, 2,7 x 1,7m; located c. 40m from E end.

Finds - small amphora (Chmielewski 1952, Fig. 46) found with grave No. 1. No skeletal remains.

22/2 L. 65m; W. 11m; Orient. E-W.

Kerb - badly damaged but reveals a gap in the E wall of the

enclosure (entrance?); change of angle of S wall c. 40m from E end.

Interior structures - remains of a timber (?) building located immediately W of E wall of the enclosure; square clay floor 4,8 x 4,8m and 0,15m thick (two layers separated by a band of soil). Traces of timber posts beyond the W wall and one along the S edge. A circular pit in the middle showed traces of slow silting up.

Three oval clay areas were also noted: one to the E of grave (2,2 x 0,9m), another 5m W of grave (2 x 1m) and a third 45m from E end (6 x 2,5m). Chmielewski interpreted these as 'hearth-middens' but they may also represent remains of other structures; there is not enough evidence to allow interpretation.

Grave 1 - 10m from E end of the enclosure, along the main axis, within a combined enclosure of stones and clay (3 x 1,4m).

Skeleton in extended position with head to W. Grave goods - 1 arrowhead and 2 flint implements (scraper and blade).

22/3 L. 63-65m; W. 10m; Orient. SE-NW.

Barrow seriously damaged.

Grave 1 - 6m from SE end; a rectang. pit, 2 x 0,7m; poorly preserved skeleton without grave goods.

Excav. Jazdzewski 1935.

22/4 - a collared flask was found in trial excavation of 1941.

Bib.: Chmielewski (1952) 83-86; No. 55; Figs. 44-48

Jażdżewski (1936b) 115

Tetzlaff (1961) 40-47.

PIOŁUNOWO, distr. Nieszawa

KUJ - 23

Des.: Unknown number of elbs noted by J.Kostrzewski.

Bib.: Chmielewski (1952) 49; No. 35.

PIOTRKOWO, distr. Nieszawa

KUJ - 24

Des.: In mid-19th century 1 elb found here.

Bib.: Chmielewski (1952) 49; No. 36.

PRZYBOROWO, distr. Koło

KUJ - 25

Des.: 1 elb is known to have existed before 1st World War.

Bib.: Chmielewski (1952) 93; No. 61.

PŚCININEK, distr. Nieszawa

KUJ - 26

Des.: Several elbs which contained human skeletons and pottery.

Bib.: Chmielewski (1952) 49-50; No. 37.

RADZIEJÓW PŁOWCE, distr. Nieszawa

KUJ - 27

Des.: One of the earliest mentions of Kujavian long barrows is associated with this locality. Agronomist M. Chełmiński noted in 1843 that he saw large mounds, "each in the shape of a triangle", scattered in the fields. He also mentioned that local people considered them relics of the 13th-century battle against the Teutonic Order.

Bib.: Chmielewski (1952) 50; No. 38.

ROGALKI, distr. Nieszawa

KUJ - 28

Loc.: In a field, E of the Głuszyn Lake.

Des.: 1 elb; L. 38m +; W. 14m (?); Orient. W-E.

Interior structures - in the middle of the barrow and above the graves an 8cm thick band of grey soil was noted (15 x 3,5m). It contained charcoal and *Anodon* shells; interpreted by Chmielewski as 'hearth-midden'.

Grave 1 - 7m from W end; a rectang. stone- built enclosure, 5 x 2,5m, placed across the main axis of the barrow. Inside, remains of 1 human skeleton, extended with head to S. No grave goods.

Grave 2 - about 3m E of grave 1; a rectang. stone-built enclosure, 3 x 1m, located along main axis of barrow. No skeletal remains and no grave goods.

Excav. Kozłowski, L. 1913

Bib.: Chmielewski (1952) 50; No. 39

Kozłowski, L. (1921) 13.



RYBNO, distr. Sochaczew

KUJ -29

Loc.: On flattish sandy-clay elevation, at confluence of Lutomnia river and a small nameless tributary.

Des.: 1 elb; L. 45-50m; W. 9m; Orient. E-W.

Kerb - very badly damaged at narrow end; boulders apparently placed with flatter sides towards the interior. In parts built as a wall of smaller stones in several courses.

Interior structures - along the main axis there was a band of pavements (all irregular) about 17m in length and 2,5-1,25m in width.

Grave 1 (?) - 4,5m from E end, a collared flask and a stone mace head were found; interpreted as grave goods. No skeletal remains or any other signs of grave.

Grave 2 (?) - 11m from E end, below the main pavement there were two more pavements found (placed at right angles to the upper one); fragments of a beaker.

Grave 3 (?) - 9m from E end, between the pavement and OLS a single layer of stones, 2,4 x 1.10m, oriented N-S was noted. No finds within or around it, but soil within was of looser consistency than elsewhere.

Excav. Jażdżewski 1935.

Bib.: Chmielewski (1952) 97; No. 76

Jażdżewski (1936a) 190-194; Figs. 1086-1087.

RZESZYNEK, distr. Mogilno

KUJ -30

Loc.: 800m W of the Gopło Lake, in a small wood.

Des.: 2 elbs; (1) L. c. 170m; Orient. E-W.

(2) L. c. 45m; Orient. E-W.

Some traces of fires and 2 stone pavements were located as well as broken-up bones and flint implements.

Excav. Łębinski 1887.

Bib.: Chmielewski (1952) 95; No. 68.

SADOK, distr. Włocławek

KUJ - 31

Des.: 1 elb; by a very boggy meadow, near the Szczytnowskie Lake.

Bib.: Chmielewski (1952) 86; No. 55.

SARNOWO, distr Włocławek

KUJ - 32

Loc.: The Sarnowo elbs are located in the central part of a large geographical unit known as the Kujavian interfluvium whose main landscape features - gently undulating hills and a network of lakes and slow-flowing rivers - were formed during the Baltic glaciation. The site is located about 600m to the south of the Zgłowiacka river, just above the edge of the valley, and 50m west of a small marshy stream. Investigations of the soil profile at the neighbouring *TRB* settlement site (1A) reveal brown earth which formed during the Atlantic climatic optimum (for detailed geological description see Sadłowska, M. 1971).

Des.: A concentration of 9 barrows, frequently referred to as the Sarnowo cemetery, forming three discrete groups: (1) Nos. 1,2,3; (2) Nos.4,5,6 and (3), with wider spacing between the individual sites, Nos. 7,8,9. The barrows in the first two groups are built upon a continuous rise and all 9 were constructed in such a way across the contour that their narrow ends are resting on higher ground than the wider ends (Fig. ).

32/1 L. 77m; W. 12m; H. 1-1,5m; Orient. ENE-WSW.

Kerb - totally removed; outline seen from 'filling-in' stones; NW wall straight, SW changed angle at 23m from E end.

Grave 1 - 5m from E end; an oval stone pavement, 5 x 2,7m and 0,4m deep, with a central rectang. area, 2 x 0,9m, free of stones; below this a rectang. framework of stones corresponding in location to the stone-free area of the pavement. Extended human skeleton accompanied by a collared flask (Chmielewski 1952, Fig. 18) and a flint arrowhead.

32/2 L. 83m; W. 12m/3m; H. 1,5m; Orient. ESE-WNW.

Kerb - severely damaged; change in the angle of S wall c. 29m from E end.

Grave 1 - 5,5m from E end; an oval pavement, 4,5 x 3,5m, with a middle area free of stones; 0,7m below, a rectang. pit, 3,6 x 2,6m. Two extended human skeletons accompanied by a collared

flask (*Ibid.*, Fig. 25) and a crushed amphora.

Grave 2 - 18m from E end, near N wall; a rectang. pit, 2,6 x 1,5m; stone framework at the level of the OLS. No skeleton and no grave goods.

Grave 4 - 40,5m from E end; a rectang. stone-built framework on the OLS. No skeleton ; one collared flask.

32/3 L. 38,5m; W. 9,5m; H. 1m; Orient. ENE-WSW.

Kerb - totally destroyed; change of angle of S wall at 13m from E end.

Grave 1 - 3,5m from E end; a roughly circular stone pavement about 4m in diameter; below, rectang. pit, 2 x 1,1m and 0,5m deep. At the bottom of the pit a rectang. stone-built enclosure. An extended human skeleton; a worked boar's tusk was found near the head.

Pottery and implements made of chocolate flint were found throughout the mound.

32/4 L. 80m; W. 11m; H. 0,8m; Orient. ENE-WSW.

Kerb - severely damaged.

Grave 1 - 7m from E end; a rectang. pit, 3,5 x 2m and 0,8m deep, filled with a mixture of stones and earth. Very faint traces of a skeleton - 2 pieces of long bones. Bottom of pit covered with white paste (possibly from shells?). 1 scraper made of chocolate flint and 4 sherds.

Grave 2 - 12m from E end; stone pavement.

Grave 3 - 15m from E end, near S wall; a rectang. stone-built enclosure adjacent to the kerb. Extended skeleton with head W.

Grave 4 - 25m from E end; stone pavement.

Grave 5 - 47m from E end; a rectang. pit. Many sherds of pottery in its vicinity.

Earlier settlement - underneath the barrow, in its E part, traces of pre-barrow settlement were discovered. This cultural layer included remains of a hearth (?), a rubbish pit, flint implements and many pottery sherds, which typologically belong to Sarnowo phase of *TRB*.

32/5 L. 76m; W. 9,5m; H. 0,8m; Orient. ENE-WSW.

Kerb - totally destroyed, original shape apparent in shallow trenches where the boulders originally stood. Both walls change their direction at about 30m from E end.

Grave 1 - 6m from E end; traces of stone pavement, 3,5 x 3m, damaged through 19th century amateur exploration. No skeleton, no grave goods.

32/6 L. 60m; W. 11,5m; H. 1,6m; Orient. ENE-WSW.

The E end of this barrow was constructed in such a way that it formed an angle of 75° with the main axis, which resulted in the S wall being 2m shorter than the N. Both walls change their direction at about 36m from E end.

Grave 1 - 6,5m from E end; a stone pavement, 3 x 1,8m; immediately beyond it a pit (at an angle to main axis of barrow) which was 3 x 1,5m in size and 0,75m deep. Very poorly preserved skeletal remains of one person, covered with white substance.

32/7 L. 75m; W. 10m/5m; H. 1,4m; Orient. NNE-SSW.

In contrast to other monuments, long walls of this barrow do not alter their direction.

Grave 1 - 5m from E end; a stone pavement, 3,6 x 1,5m, with traces of pit.

Grave 2 - parallel to grave 1; stone pavement overlying a pit.

Graves 3, 4 and 5 - all in E part of mound, with stone pavements and outlines of pits.

32/8 L. 71m; W. 12m/1m; H. 0,9m; Orient. ENE-WSW.

Kerb - damaged; slight change of angle in S wall at about 25m from E end.

Interior structures - 9m from E end a transverse trench was discovered which is considered to represent the original E end of the barrow, with remaining 9m to E added to an already completed barrow (see chapter 8 for discussion).

Grave 1 - 14m from E end; a rectangular stone pavement, 4,8 x 3,2m; grave pit below, 2,4 x 0,9m and 2,4m deep, filled with mixture of stones and earth except for the bottom 17cm, which contained

just soil. No skeleton. In stone fill there were pottery sherds, a few flint objects, animal bones and pieces of daub.

Graves 2 and 3 - 7m from E end; a circular mound of black peaty soil underneath which was a circular pavement, 4m in diameter, covered both graves.

Grave 2 - a rectang. pit, 1,7 x 0,65-0,70m and 0,4m deep, edged with a band of white chalky substance several centimetres wide, presenting perfect regular outline. Bottom of pit laid out with the same substance. One extended skeleton, female of about 18 years of age; 2 pottery sherds.

Grave 3 - a rectang. pit, 2,1 x 0,6-0,75m and 0,4m deep, marked out with the same white substance as grave 2. One extended human skeleton, male between 40 and 50 years of age.

Other features:

(1) Pre-barrow cultural layer recovered in the E part of the mound in three separate places, contained a total of 690 pottery sherds as well as fragments of animal bones, flint implements, pieces of charcoal etc.

(2) Daub floor(?) - a rectang. area, 6 x 10m, of broken-up daub found in area between central grave and 'annexe'. At the edges of this feature 18 small post-holes, 15-30 cm in diameter, and 20-40 cm deep, were noted.

(3) Plough-marks - underneath the daub floor parallel bands of grey sand running NW-SE and NE-SW, 10-15 cm wide and 6-8 cm deep, are considered to represent different episodes of ploughing. Contained charcoal, vegetable matter, daub and pottery sherds.

C-14 date associated with the pre-barrow settlement: GrN-5035: 3620±60 bc.

32/9 L. 30m; W. 8m; H. 0,58m; Orient. ENE-WSW.

The whole barrow was very badly denuded and its outline is only approximate.

Interior structures :

(1) At E end of the barrow - a layer of muddy soil (layer II),

an area of 9 x 6-8m and 0,2-0,4m thick, of riverine origin containing a few pottery sherds, a few flint pieces as well as shells of riverine snails.

(2) Timber structure - 6m from E end; foundation trenches of a dismantled wooden building consisting of 3 rooms (?) 3 x 2,4m, 2 x 1,6m and 2 x 1,5m; small pieces of charcoal were found inside and outside the structure.

Grave 1 - 6m from E end underneath the timber structure; a trapez. pit, 2,8 x 1,75-1,50m, with sharply defined edges, 0,55m in depth. Inside it a rectang. grey colouration with rounded corners contained one extended skeleton (remains of a coffin?). Skeleton - adult female (senile?).

Excav. Chmielewski 1950 and 1951 - barrows 1,2,3,4,5 and 6

Gabałówna and Wiklak 1966-1975 - barrows 7,8 and 9.

Bib.: Chmielewski (1952) 53-73; No. 48; Figs. 14-42

Gabałówna (1968b) 135-147

(1968c) 95-99, 165-169

(1969a) 51-57

(1969b) 43-52

(1970a) 77-91

(1971) 247-252

Młynarczyk (1976) 55-93

Niesiołowska-Średniowska (1982) 85-155

Sadłowska (1971) 105-112

Wiklak (1975a) 43-53

(1982) 55-93.

SKARBANOWO, distr. Koło

KUJ - 33

Des.: In 1936 a well preserved elb was discovered here.

Bib.: Chmielewski (1952) 93; No. 62.

SŁABOSZEWO, distr. Mogilno

KUJ - 34

Loc.: On a slight elevation, in an area of rich meadows and small lakes, 10 km E of the river Notec.

Des.: 2 elbs:

(1) Near N edge of a 'stone enclosure' of 6 x 1m was found. In SW end of barrow - human skulls, long bones and animal bones were found (Globular Amphora ?).

(2) In second barrow 4 human skeletons were found - one with a small pot by the head. Among constructions was noted a 'circular ring' 1,35m in diameter and traces of hearth and black, greasy soil. Pottery sherds were abundant; 1 flint knife.

Excav. W.Schwartz in 1879.

Bib.: Chmielewski (1952) 95-96; No. 69.

SŁUPECZKA, distr. Koło

KUJ - 35

Des.: 1 elb, destroyed soon after the 1st World War.

Bib.: Chmielewski (1952) 93; No. 63.

SŁUŻEWO, distr. Nieszawa

KUJ - 36

Des.: Several elbs known in the 19th century.

Bib.: Chmielewski (1952) 50; No. 40.

SOMPOLNO, distr. Konin

KUJ - 37

Des.: 1 elb known in 19th century.

Bib.: Chmielewski (1952) 95; No. 67.

STRUŻEWO, distr. Nieszawa

KUJ - 38

Des.: 1 elb near Głuszyn lake.

Bib.: Chmielewski (1952) 50; No. 41.

ŚWIERCZYN, distr. Nieszawa

KUJ - 39

Des.: Von Erckert found 2 elbs here, but did not conduct any explorations.

Bib.: Chmielewski (1952) 49; No. 34.



ŚWIERCZYNEK, distr. Nieszawa

KUJ - 40

Loc.: At the edge of a boggy valley which joins with Głuszyn lake.

Des.: 2 elbs (could be trapez.).

40/1 L. 17m +; W. 10m; Orient. S-N.

Kerb - the long walls were constructed of a double row of stones and the S end was formed by 5 large boulders.

Interior structures :

(1) A rectang. stone-built enclosure (6 x 1,3m) was found to the N of the grave. Interior was filled with grey soil and at the level of OLS there were two concentrations of pottery sherds and one of broken animal bones.

Grave 1 - this grave is very difficult to interpret. In construction it represents a typical northern passage grave, built of large boulders and characteristic of the Globular Amphora culture. The actual interments are of the *TRB* style - extended inhumations. It is possible that the excavator did not recognise the intrusive nature of the grave and that the burials may date from *TRB* - there is no evidence to confirm either one or the other.

40/2 L. 27m +; W. 15m; Orient. SE-NW.

Kerb - the long walls were constructed of a double wall of stones and the SE end was closed with 8 large boulders.

Interior structures:

(1) 12,5m from E end a rectang. stone-built enclosure was found (9,3 x 1,7m). The SE end was open. Inside there were three concentrations of broken animal bones and traces of fire - all covered with grey soil.

(2) To the NW of 1st enclosure there was another one - open at both ends.

Grave 1 - 4m from SE end - an extended skeleton on OLS, surrounded by a few stones.

Grave 2 - 7m from SE end - an extended skeleton on OLS.

Grave 3 - 8m from SE end - a circular enclosure of stones (3m in diameter) in which there were 5 skeletons - some may have been intrusive.

Grave 4 - 11m from SE end - an extended skeleton surrounded by some stones.

Grave 5 - 6m from SE end, near W wall, an extended skeleton lying within an enclosure of 4 large stones (2 on each side).

Also one incomplete skeleton was found. Most of skeletons adults, one child.

Bib.: Chmielewski (1952) 46-49; No. 33; Figs. 12-13  
Kozłowski, L. (1921) 3-13.

TRZEB CZ, distr. Chełmno

KUJ - 41

Des.: 4 elbs, scattered in the fields; their length varied between 8 and 60m.

Bib.: Chmielewski (1952) 96; No. 74.

TYPADŁY, distr. Bydgoszcz

KUJ - 42

Des.: elbs, number uncertain (poss.2), discovered 1973.

Bib.: Kokowski (1980) 286-287  
Kośko (1977) 404.

TYMIEN, distr. Koło

KUJ- 43

Des.: 5 elbs, explored in 1879, only pottery sherds found.

Bib.: Chmielewski (1952) 93; No. 64.

WIERZBINEK, distr. Nieszawa

KUJ - 44

Des.: Elbs (apparently many) of variable orientation, but mainly SE-NW. 1 elb was explored by von Erckert - it contained 4 skeletons and pottery sherds.

Bib.: Chmielewski (1952) 50, No. 42.

WIETRZYCHOWICE, distr. Koło

KUJ - 45

Loc.: On flat ground moraine, very near lake and a long post-glacial boggy valley.

Des.: A group of 7 elbs, 5 arranged in a fan-like layout, 2 further away: one to NE, another to SW of central group.

45/1 L. 76m; W. 10m; Orient. SSE-NNW.

Kerb - very badly damaged, E wall deviates from its course at about 25m from SSE end.

Grave 1 - a small concentration of stones near SE end - remains of a grave placed on OLS?

Between this and grave 2 traces of fire, charcoal and sherds.

Grave 2 - 10m from SSE end - a concentration of stones c. 3m in diameter - remains of a grave placed on OLS?

TRB pottery sherds found throughout the mound.

45/2 L. 93m; W. 9m; Orient. SSE-NNW.

Kerb - badly damaged.

Grave 1 - 11m from SSE end. Extended skeleton directly on OLS, adult male about 50 years of age.

Some pottery sherds, a stone mace-head of basalt and flint pieces found in the mound.

45/3 L. 115m, W. 10m/2,5m; Orient. SE-NW.

Kerb - relatively well preserved, stones arranged in order of size, diminishing towards the narrow end which was crowned with one large boulder. Change of angle particularly prominent in N wall at about 46m from SE end. A gap in the middle of the broad end - entrance?

#### Interior structures:

(1) 12m from SE end, a row of stones traverse the width of the barrow - remains of a partition?

(2) 0.7m above OLS ( x 1.7m) a band of dark, greasy soil containing pottery sherds, broken animal bones, flint debris and charcoal - interpreted as 'hearth-midden'.

Grave 1 - 2m from SE end, a rectang. stone-built enclosure (3,6 x 2m), very carefully constructed. 1 extended inhumation accompanied by a flint knife. Covered with soil and stone pavement.

Grave 2 - 6m from SE end, a rectang. stone-built enclosure (2,5 x 1,8m). 1 extended inhumation without grave-goods.

45/4 L. 30m; W. 6,5m; Orient. ESE-WNW.

Grave 1 (?) - in vicinity of an irregular brown stain, 1 fragment of skull and lower jaw with teeth. Anthropological analysis suggests these belonged to a dolichocephalic male about 30

years of age. No grave-goods.

Pottery found throughout the mound.

45/5 L. 47m; W. 7,5m; Orient. ESE-WNW.

Kerb - still relatively well preserved; broad end built of 5 large boulders with a gap in the middle.

Interior structure:

(1) At 1,2m from ESE end 2 post-holes (0,4m in diameter) were found, 1m apart, one on either side of the main axis. Two more such post-holes were recognised to N of grave. Possibly traces of a timber structure.

Grave 1 - about 12m from ESE end, a sub-rectang. pit (3,75 x 3m; 0,35m deep). Contained 2 extended skeletons - 1 adult male about 35 years of age, 2nd adult male about 50 years of age. Both skeletons showed traces of skull trepanation. 1 pottery sherd of TRB and a piece of limestone.

Pottery and flint finds throughout the mound.

Excav. Jażdżewski in 1935 - 45/3

Jadczykowa in 1967-68 - 45/1, 45/2 and 45/5

Madajski in 1969 - 45/4.

Bib.: Chmielewski (1952) 93-95; No. 65; Fig. 61

Jadczykowa (1970) 125--43

(1971) 93-103

Jażdżewski (1936) 121-129

Makiewicz (1969) 25-27.

WÓLKA KOMOROWSKA, distr. Koło

KUJ - 46

Des.: 2 elbs, located S of village, in vicinity of marshy meadows.

Bib.: Chmielewski (1952) 95; No. 66.

ZBERZYN, distr. Konin

KUJ - 47

Loc.: On a small elevation of clays and covered with sands; in vicinity post-glacial meltwater valleys. To the S of the location stretches an area of rich, fertile black earth soils, to the N peaty and brown earth and further beyond bleached soils of sandy origin.

Des.: A concentration of 5 elbs, most of them badly damaged (2 more to the E).

47/1 L. less than 57m; W. 9m/5m; Orient. E-W.

Mound - consists mostly of sand with some admixture of morainic clay. With exception of layer IIa ("ooze layer") all material collected in the vicinity of the barrow.

Kerb - extremely damaged, the shape of the barrow inferred from shallow trenches, 'filling-in' stones and bands of iron staining (iron pan?). Change of angle in N wall noted at about 17m from E end.

Interior structures:

(1) Immediately within E end - burnt remains of timber building. Clay floor (4,5 x 4m) was built in 2 stages (and made impervious by firing the first layer). Remains of posts were noted in corners and in the middle of all walls (except E) of about 0,4m in depth. Walls were constructed by rebating wooden planks into the vertical members of the framework - good evidence of this was preserved among the charred remains of walls which had fallen inwards. The outer posts were of ash wood while the central (roof-bearing?) post was of oak. Traces of pine suggest that this wood was possibly used in construction of roof. The excavator on the basis of the distribution of posts, suggested 4-way sloping roof with the height of the building possibly being up to 3,5m in the middle, with walls at about 1,6m.

In the interior there were found large quantities of partly charred animal bones.

The building was destroyed by fire. Presence of burnt sand in the interior and lack of it to the outside suggests that this took place in a rainy season (late autumn/early spring) when the mound contained a lot of moisture.

Grave 1 - 11m from E end, slightly towards N; a roughly rectangular concentration of stones (2,2 x 1,2 x 0,8m). Towards the bottom the stones formed a sort of framework. No grave pit noted.

Throughout, *TRB* pottery sherds of Wiorek phase.

Bib.: Gorczyca (1981) 1-20; Figs. 1-16.

ZBERZYNEK, distr. Konin

KUJ - 48

Loc.: 1 km SE of KUJ - 47, in the same landscape (see entry KUJ -47).

Des.: 1 elb, very poorly preserved.

L. 70m; W. 6m; Orient. E-W.

Mound - according to local inhabitants the mound was covered with a heavy stone mantle, especially in its E part.

Kerb - noted only at E end and towards the middle.

Interior structures :

(1) near E end, rectang. area (3 x 4m) of black, fatty soil, 0,3m thick, with traces of repeated burning. Contained 5 fragments of pottery and collared flask.

Grave 1 - a stone pavement of elongated shape, beneath which was a pit filled with 0,3m thick layer of black soil.

Grave 2 - apparently another such pavement was also found.

Phosphate analysis of the contents of Gv.1 registered 24,25 mg  $P_2O_5$  per 100 g of soil.

General finds: at various points within the mound there were pottery sherds, 2 frags of battle axe, 1 frag. of flint axe and 3 flint implements.

Bib.: Olczak (1957) 219-221

Tetzlaff (1961) 40-47.

ZIEMIĘCIN, distr. Nieszawa

KUJ - 49

Des.: 7 km SE of Gopło lake, von Erckert discovered 1 elb.

L. 160m; Orient. E-W.

Apparently 3 stone-built structures were discovered - no details.

Bib.: Chmielewski (1952) 51; No. 43.

## WESTERN POMERANIA

BABIN (Babbin), distr. Pyrzyce

WPOM - 1

Loc.: 3 km N of Babin, on a sand dune.

Des.: 5 elbs (of unknown form). 19th/20th century amateur investigations.

Bib.: Dorka (1939) 119

Holsten and Zahnow (1920) 115

Siuchniński (1969) 107-108.

BARNOWO, distr. Słupsk

WPOM - 2

Loc.: 2 km SE of Barnowo; at the edge of a sharply falling moraine, above a small stream.

Des.: 2 possible elbs:

In an area of about 60 sq. m(?) there were large boulders arranged as follows:

(1) 9 boulders forming 2 walls at right angles to each other, E-W wall about 20m long, N-S wall about 5 m long (exceptionally large boulders).

(2) Rectang. area (3 x 4m) built of medium-sized stones (remains of a stone mantle or a stone pavement?).

Bib.: Jankowska and Koško (1973) 44-45.

BORKOWO (Borkow), distr. Sławno

WPOM - 3

Loc.: 0,5 km E of Borkowo, near a boggy valley with a small stream.

Des.: 3 rectang. elbs:

3/1 L. 31m; W. 11m; Orient. E-W.

Large concentration of stones noted in E part.

3/2 L. 29m; W. 9m; Orient. E-W.

W. Boege found in 1939 a circular stone arrangement which contained frags. of beakers (rim and belly sherds with vertical grooves), 1 thick-butted flint axe and 1 stone axe.

3/3 At one time a rectang. mound, seriously damaged.

Bib.: Siuchniński (1969) 26-27; No. 1; Table IIa, b,c,d

Sprockhoff (1967) 97; Nos. 582-584 (note different dimensions);

Abb. 18; Karte 25; Atlasblatt 133.



BRZESKO (Brietzig), distr. Pyrzyce

WPOM - 4

Loc.: At various points around the village of Brzesko.

Des.: An extensive group of at least 24 elbs in 4 discrete groups:

(1) NE of village - 8 elbs (2 triang., 2 rectang.); Holsten and Zahnow (1920) Tafel V, Fol.3, Tafel A, Nos. I-VI + 2 unnumbered.

(2) NW of village - 10 elbs (2 rectang., 1 *Opferstein* 2m tall); *Ibid.*, Tafel V, Fol. 4, Tafel B, Nos. I-III and 7 unnumbered.

(3) SE of village - 3 elbs (triang.); *Ibid.*, Tafel V, Fol. 3, Tafel A, No. VII and 2 unnumbered.

(4) N of the Pyrzyce - Przelewice road - 3 elbs; *Ibid.*, Tafel V, Fol. 5, Tafel C.

Bib.: Dorka (1939)

Holsten and Zahnow (1920) 115, 126; Tafel V, Fol. 3, 4, 5

Siuchniński (1969) 108-109; Nos. 1 and 3

Sprockhoff (1967) 95.

BRZYZINA (Falkenberg), distr. Pyrzyce

WPOM - 5

Loc.: E of Brzezina, by road from Brzezina to Dolice.

Des.: 4 rectang. elbs.

Bib.: Chmielewski (1952) 42, No. 11

Dorka (1939) 132

Holsten and Zahnow (1920) 120-121.

BUNIEWICE, distr. Kamień Pomorski

WPOM - 6

Loc. 0,3 km N of Buniewice.

Des.: In 19th century 1 elb of unknown shape was destroyed; some pottery sherds were found within.

Bib.: Siuchniński (1969) 179.

CHRZĄSZCZEWO, distr. Kamień Pomorski

WPOM - 7

Loc.: NW of Chrząszczewo.

Des.: 18 elbs(?). In 19th century apparently many mounds were in existence, some with circular stone arrangements which contained burials and grave-goods.

Bib.: Siuchniński (1969) 180; No. 13.

DĄBROWA NOWOGARDZKA, distr. Nowogard

WPOM - 8

Des.: At the beginning of 20th century 2 triang. elbs were known:

(1) L. 36m; W. 9m.

Bib.: Siuchniński (1969) 81.

DĄBRÓWNO, distr. Słupsk

WPOM - 9

Loc.: 1,7 km NE of Dąbrowo, 6,5 km E of the Potęgowo TRB settlement,  
on right bank of the Łupawa river.

Des.: In 19th century about 42 elbs; 2 badly damaged stone cists were  
investigated by Sprockhoff in 1934.

Bib.: Jankowska and Kośko (1973) 42

Siuchniński (1969) 13-14

Sprockhoff (1964) Table 66.

DOLICE (Dölitz), distr. Pyrzyce

WPOM - 10

Loc.: At various points around Dolice village.

Des.: A concentration of at least 7 elbs, in 4 groups:

(1) 2 km SE of Dolice, on high bank of the Ina river - 2 elbs  
of unknown shape; 1 had a large upright at NE corner.

(2) 300 paces from (1), by road from Dolice to Dobropole Py-  
rzyckie - 3 elbs (triang.). In the past considered to belong to  
Dobropole Pyrzyckie.

(3) 3 km NE of village, in forest, beyond road to Piasecznik -  
1 elb (unknown shape).

L. 53m; W. 7,5m; Orient. E-W. Explored by Sprockhoff in 1934.

(4) 1,5 km E of village, in forest - 1 elb (triang.)

L. 50m +; W. 7m; Orient. NE-SW.

Interior structures: 1 transverse stone wall c. 7m from E end;  
2nd compartment - heavy stone fill about 6m long.

Excav. Wiślański 1982 (in progress).

Bib.: Chmielewski (1952) 42; No. 12 (under Dobropole Pyrzyckie)

Dorka (1939) 129

Holsten and Zahnow (1920) 120-121, 126

Siuchniński (1969) 111-112

Sprockhoff (1967) 94; No. 577; Karte 27; Atlasblatt 130.

(note that with the exception of Dorka (1939) none of the

accounts contain full information).

GOGOLEWKO, distr. Słupsk

WPOM - 11

Loc.: 3 km NE of Gogolewko, by forest road between Łupawa and Czarna Dąbrówka.

Des.: 3 elbs (?):

11/1 Oval mound with a stone cist built of small round stones (3,5 x 2m); Orient. NW-SE.

11/2 Trapez. elb, L. 17m; W. 4-6m; Orient. N-S.

Kerb still preserved in places.

11/3 Low, circular (?) mound, 8m in diameter. Stone-built cist (3,2 x 1,5m) oriented NE-SW. Ploughed-out elb (?).

Bib.: Jankowska and Kośko (1973) 42; Fig.7

Siuchniński (1969) 15.

GRĄBKOWO, distr. Słupsk

WPOM - 12

Loc.: On right bank of the Łupawa river, 500m SE of the Poganice TRB settlement.

Des.: 2 rectang. elbs. L. about 25m; Orient. E-W.

Bib.: Jankowska (1980) Table 13.

JAGÓW (Jagow), distr. Myślibórz

WPOM - 13

Loc.: 0,8 km N of Jagów, by road to Warszyn.

Des.: In 1826 1 elb (triang.) was destroyed.

L. 26m; W. 9m; Orient. E-W..

Bib.: Chmielewski (1952) 42; No. 13

Dorka (1939) 145

Holsten and Zahnow (1920) 121

Siuchniński (1969) 98

Sprockhoff (1967) 93.

JARCHLINO (Jarchlin), distr. Nowogard

WPOM -14

Des.: 2 triang. elbs (destroyed):

(1) L. 24m; W. 6,5m.

(2) L. 40m; W. 6,5m.

Bib.: Chmielewski (1952) 43; No. 23

Siuchniński (1969) 81

Sprockhoff (1967) 93.

KARSKO (Schöningsburg), distr. Pyrzyce

WPOM -15

Loc.: 3 km NE of Karsko, on the edge of an interfluvium overlooking the Pyrzyce lowland area.

Des.: 2 elbs (triang./trapez. ?); parallel to one another, about 5m apart:

15/1 (Southern) L. 43m; W. 8-3m; Orient. E-W.

Kerb - built of boulders, diminishing in size from E to W. Entrance in middle of E wall - stone paving within and poss. outside. Another poss. entrance (to the 3rd compartment) in S wall at about 25m from E end.

Interior structures:

(1) Interior divided with 4 transverse stone rows into 5 segments (of about 4m, 9m, 6,5m and 2,5m starting from E end; final segment runs for the rest of the enclosure's length); 1st 2nd and 3rd walls built of flattish stones (same size as kerb stones), 4th wall - smaller stones.

1st compartment - 2 conspicuous piles of stones opposite the entrance. No sections, therefore function unknown.

2nd compartment - filled with a dome-shaped cairn which stops abruptly some distance before 2nd transverse wall. Double wall along N and S sides.

3rd compartment - double walls along N and S sides; a narrow passage connects it to the 2nd compartment. Possible that access to this part was gained through entrance in S wall.

Grave 1 - in middle of 2nd compartment, a small rectang. stone-built enclosure was found (3 x 4m), built of slightly larger stones than covering cairn. No traces of skeleton, no finds. In the mound some pottery sherds were found.

15/2 (Northern) L. 45m; W. 5m +; Orient. E-W.

Kerb - very badly damaged along the N side. Some stones in the interior, occasional short stretches of double wall along

S side. Too damaged to offer any interpretation.

Excav. Wiślański 1978.

Bib.: Chmielewski (1952) 39; No. 14; Fig. 10

Siuchniński (1969) 113

Sprockhoff (1967) 94; Nos. 578-579; Tafel 92; Karte 27;

Atlasblatt 131,132

Wiślański (excavation results not yet published; included here with kind permission of Prof. T. Wislanski).

KŁEBY (Klemmen), distr. Kamień Pomorski

WPOM - 16

Loc.: In a forest, between the villages of Kłęby and Barnisławice.

Des.: A group of 4 elbs, most likely trapez. (Chmielewski, 1952 - triang.):

16/1 L. 15m; W. 7m; Orient. E-W.

A rectang. pit (grave?) and concentration of stones found at E end.

16/2 L. 45m; W. 4m; Orient. W-E.

Concentration of stones, charcoal, animal bones, flint blades, frag. of a flint axe and pottery sherds found in broader (W) end.

16/3 L. 35m; W. 5m; Orient. N-S (Sprockhoff E-W).

16/4 L. 18m; W. 7m; Orient. E-W.

Excav. Voss 1877.

Bib.: Chmielewski (1952) 43-44; No. 24

Siuchniński (1969) 182-183; Table XXIIa-d

Sprockhoff (1967) 92.

KŁODZINO PŁONSKIE (Kloxin), distr. Pyrzyce

WPOM - 17

Loc.: At various points around the village of Kłodzino Płonskie.

Des.: At beginning of 19th century 1 elb (triang.).

L. 31m; W. 7,5m; Orient. E-W.

In the past elbs which belong to Płonsko (WPOM - 34) and Laskowo (WPOM - 23) were included.

Bib.: Dorka (1939) 147

Holsten and Zahnow (1920) 126, Tafel V, Fol. 10, No. 3

Siuchniński (1969) 114

Sprockhoff (1967) 95.

KLUKI (Kluchen), distr. Pyrzyce

WPOM - 18

Des.: At beginning of 19th century 3 elbs (triang?), all oriented SE-NW.

Bib.: Chmielewski (1952) 40; No. 2

Holsten and Zahnow (1920) Tafel V, Fol. 7 (3 elbs W of the border with Cossin)

Siuchniński (1969) 113

Sprockhoff (1967) 93.

KOSIN (Kossin), distr. Pyrzyce

WPOM - 19

Loc.: At various points around the Kosin village.

Des.: At beginning of 19th century there were 7 elbs (triang?) with broader ends oriented towards E. Average length about 31m; connected to Brzesko (WPOM - 4).

Bib.: Chmielewski (1952) 41; No.4

Dorka (1939) 151

Holsten and Zahnow (1920) 116, 126-127; Tafel V, Fol. 7

Siuchniński (1969) 114

Sprockhoff (1967) 95.

KREPCWO (Kremzow), distr. Pyrzyce

WPOM - 20

Loc.: High up on a plateau, between the rivers of Ina and Little Ina.

The plateau is traversed by numerous lakes and streams; heavy clay soils stretch to the S.

Des.: 1 triang. elb; L. c.60m; W.9m; H. 1-2m; Orient. E-W.

Mound - the first 24m from E end made of stones and clay; beyond this, yellow clay only.

Kerb - preserved for about 40m from E end. Broad end constructed of 6 large boulders with 1m gap in the middle (entrance?). Stones forming the long sides stood with their flat sides to outside; gaps filled with smaller stones.

Stone cairn - stone and clay mantle divided into 2 segments

at 13m from E end. Upper layer built of small stones (0,1-0,2m), lower layer of larger stones (0,5-0,7m). No gaps observed anywhere within the cairns.

Grave (graves?) - not identified.

Finds - throughout the mound 318 pieces of pottery (including 11 pots) representing beakers, bowls, flat baking plates and amphorae were found. Typologically - Wiorek phase.

Bib.: Dorka (1939) 153-154

Siuchniński (1969) 115; No. 4

Sprockhoff (1967) 93; No. 576; Karte 26; Atlasblatt 129

Wiślański (1977) 83-100.

KURCEWO (Krussow), distr. Stargard Szczeciński

WPOM - 21

Loc.: SE of Kurcewo village.

Des.: 2 triang. elbs, about 100 paces apart, now destroyed.

(1) L.: 150m(?); W. 3,5m;

(2) L.: 30m; W. 3,5m;

Bib.: Chmielewski (1952) 42-43; No. 15

Dorka (1939) 154

Holsten and Zahnow (1920) 116, 216

Siuchniński (1969) 87

Sprockhoff (1967) 96 (note slightly different dimensions).

ŁABUŃ WIELKI (Labuhn), distr. Łobez

WPOM - 22

Des.: In the middle of 19th century 3 elbs (triang.) were known.

Their dimensions : L. between 9m and 4m; W. between 2m and 2,5m  
Orient. E-W.

Bib.: Chmielewski (1952) 44; No. 25

Siuchniński (1969) 75

Sprockhoff (1967) 93 (different dimensions).

LASKOWO (Latzkow), distr. Pyrzyce

WPOM - 23

Loc.: 2 km W of Laskowo.

Des.: At beginning of 19th century von Plon recorded 3 elbs

( 1 definitely triang. - L. 23m; W. 6m). All orient. E-W.



Bib.: Chmielewski (1952) 41; No. 5

Dorka (1939) 136

Holsten and Zahnow (1920) 116; Tafel V, Fol. 10, Nos. I and II

Siuchniński (1969) 115

Sprockhoff (1967) 96.

LETNIN (Lettnin), distr. Pyrzyce

WPOM - 24

Loc.: SE of Letnin (mostly in the forest where it connects with  
Mysliborki, WPOM - 28).

Des.: At beginning of 19th century von Plön noted as many as 18 elbs  
(mostly triang. but at least 1 was rectang.). 2 triang. elbs  
had transverse stone rows in their interior. Orient. varied.

Bib.: Chmielewski (1952) 41; No. 6

Dorka (1939) 156

Holsten and Zahnow (1920) 115, 126; Tafel V, Fol. 6; Tafel VI,  
Fol. 9

Siuchniński (1969) 116

Sprockhoff (1967) 96.

ŁUPAWA (Lupow), distr. Słupsk

WPOM - 25

A large concentration of over 30 elbs, scattered in 6 main sites.

Associated with the Poganice *TRB* settlement.

Site 1 (known as Łupawa 1)

Loc.: 800m E of Łupawa river and 1 km S of Poganice.

Des.: 25/1, 1 rectang. elb, with stone groupings perpendicular to  
main axis (transverse stone rows?). A round mound was apparently  
adjacent to one of the sides of elb.

Bib.: Jankowska (1980) 78; Table 13

Siuchniński (1969) 17; No. 1.

Site 2 (known as Łupawa 2)

Loc.: 800m E of Łupawa river and about 4 km SE of Poganice.

Des.: In an area of about 5 hectares there are 2 groups of mostly  
trapez. elbs (gr. 1 - 8 elbs; gr. 2 - 4 elbs).

Group 1 - 8 trapez. elbs:

25/2 L. 32,5m; W. 7m (W) - 4m(E); Orient. NW-SE.

Very large boulders on NW side (up to 1,4 x 1m) diminishing in size from W to E.

Bib.: Sprockhoff (1967) 99; No. 587; Karte 28; Abb. 19; Atlasblatt 135.

25/3 L. 33m; W. 5,5m - 4,5m; H. 0,8m; Orient. NW-SE.

Bib.: Sprockhoff (1967) 99; No. 588; Karte 28; Abb. 19; Atlasblatt 136.

25/4 L. 22,5 - 24,5m; W. 7 - 5,5m; Orient. N-S.

Bib.: Sprockhoff (1967) 99; No. 589; Atlasblatt 137.

25/5 L. 24,5m; W. 6,5 - 3m; Orient. NE-SW.

Bib.: Sprockhoff (1967) 99; No. 590; Atlasblatt 138.

25/6 L. 24,5m; W. 7 - 5m; Orient. SE-NW.

Bib.: Sprockhoff (1967) 99-100; No. 591; Atlasblatt 139.

25/7 L. 23,5m; W. 6,5 - 4m; Orient. SE-NW.

Bib.: Sprockhoff (1967) 100; No. 592; Atlasblatt 140.

25/8 L. ? W. ? Orient. N-S.

Bib.: Sprockhoff (1967) 100; Atlasblatt 140.

25/9 L. 30m; W. 8,5 - 3,5m; Orient. E-W.

Bib.: Sprockhoff (1967) 100; No. 594; Atlasblatt 141

Group 2:

25/10 - 25/13; 4 trapez. elbs.

Bib.: Jankowska (1980) 78; Table 13

Siuchniński (1969) 17-18 (for group 1)

Sprockhoff (1967) 99-100; rest as above.

### Site 3 (known as Łupawa 15)

Loc.: On E bank of Łupawa river, on E edge of Poganice settlement.

Des.: A group of 8 elbs (6 trapez., 2 rectang.):

25/14 Trapez. L. ? W. ? Orient. NE-SW.

Unfinished?

25/15 Trapez. L. 15m; W. 6 - 4m; Orient. S-N.

Kerb built of large boulders, mound containing mainly earth.

Grave 1 and 2 - both are pit graves with 'stone pavements';

in wider part of elb.

25/16 Trapez. L. 13m; W. 4 - 3m; Orient. NW-SE.

Kerb built of large stones, mound of earth and stones.

Grave 1 and 2 - both pit graves with 'stone pavements', located in middle of mound.

Finds - 7 pieces of surface flint, deposited together in mound.

C-14 determination Bln 1313: 4025 $\pm$  60bp 2075 $\pm$  60bc.

25/17 Trapez. L. 7m; W. 4 - 3m; Orient. W-E.

Grave 1 - pit with a 'stone pavement'; free space in middle of pavement interpreted as evidence for 2 additional burials (graves 2 and 3) but may well represent remains of timber and stone grave which collapsed upon decay.

Grave 4 and 5 - 2 side-chambers (small stone cists) added one on each side outside the kerb and joined to main enclosure by removal of some kerb stones.

25/18 Rectang. L. 20m; W. 3m; Orient. N-S.

25/19 Trapez. L. 2,4m; W. 3 - 2,4m; Orient. E-W.

Grave 1 - pit in OLS, cremated (?) bones of a young female were found, accompanied by frags. of pottery sherds and burnt animal bones.

25/20 Rectang. L. 2,4m; W. 1,6m; Orient. N-S.

Grave 1 - on OLS (?), covered with 'stone pavement'.

25/21 Trapez. L. 2,8m; W. 1,2 - 1m; Orient. NW-SE.

Excav. Jankowska 1972- 1976.

Bib.: Jankowska (1975) 27-41

(1980) 97-105, Table 13

(1981) 119-135

Jankowska and Kośko (1973) 30-45

(Note all information published piecemeal in various interim reports.)

#### Site 4 (known as Łupawa 17)

Loc.: On E bank of Łupawa river, E and SE of Poganice.

Des.: A group of possibly 6 elbs (25/22 - 25/27) all very badly damaged. Considered an extension of site 3 (above).

Bib.: Jankowska (1980) 79; Table 13.

Site 5 (known as Łupawa 18)

Loc.: On E bank of Łupawa river. on S edge of Poganice settlement.

Des.: A group containing at least 7 elbs.

25/28 Trapez. L. 65m; W. 11 - 5m; Orient. N-S.

Kerb built of large boulders, diminishing in size from N to S.

Grave 1 - 6m from N end; a rectang. pit (2 x 0,8m) with dark staining along the edges (traces of organic material ?); covered with an oval 'stone pavement' 2 x 1m in size and 0,4m thick. Finds in a pit - 2 circular amber beads; in stones - 3 pots: beaker, amphora and bowl.

C-14 determination - Bln 1593: 5730 $\pm$ 45 bp 3780 $\pm$ 45bc

(considered unreliable by the excavator)

25/29 Trapez. L. 45m; W. 7 - 3,5m; Orient. S-N.

Kerb built of large stones, a band of smaller stones about 2m wide and 0,3m thick runs all the way along the outside; mound consists of stone and earth.

Grave (?) - not identified; certain amount of burnt bone (human?) found scattered in N part of mound.

C-14 determination - Bln 1814: 6060 $\pm$ 60bp 4110 $\pm$ 60bc

(considered too early)

25/30 Trapez. L. 39m; W. 7 - 3m; Orient. W-E.

Mound made of stones and earth (some stone querns incorporated); W end is slightly curved.

25/31 - 25/34 No details.

Bib.: Same as for site 3 above.

Site 6 (known as Łupawa 24a and b)

Loc.: E bank of Łupawa river, about 4,5 km SE of Poganice.

Des.: Poss 2 elbs, both very extensively damaged. One may have had a stone-built construction (cist or chamber).

Bib.: Jankowska (1980) 80; Table 13.

MASZEWO, distr. Goleniów

WPOM - 26

Des. In 1827 an unknown number of elbs (triang.) were recorded.

Bib.: Siuchniński (1969) 170.

MORZYCA (Blumberg), distr. Pyrzyce

WPOM - 27

Loc.: 0,4 km S of Morzyca village, near road between Pomietow and Morzyca.

Des.: 1 elb (poss. triang.)

Bib.: Dorka (1939) 123

Holsten and Zahnow (1920) 118

Siuchniński (1969) 116

Sprockhoff (1967) 96.

MYŚLIBORKI (Mützelburg), distr. Pyrzyce

WPOM - 28

Loc.: At various points around Myśliborki village.

Des.: A concentration of at least 26 elbs in 2 groups:

(1) E of village - 4 triang. elbs.

(2) W of village - large group of 22 elbs (mainly triang.).

Orientation predominantly NE-SW. (Prior to 1945 part of this area belonged to Kosin).

Bib.: Chmielewski (1952) 41; No. 7

Dorka (1939) 151-152

Holsten and Zahnow (1920) 116, 126; Tafel VI, Fol. 8 and 9.

Siuchniński (1969) 119-120

Sprockhoff (1967) 95.

NIEBOROWO (Isinger), distr. Pyrzyce

WPOM - 29

Des.: At beginning of 19th century 2 triang. elbs were recorded.

Bib.: Chmielewski (1952) 43; No. 16

Dorka (1939) 143

Holsten and Zahnow (1920) 113, 126

Siuchniński (1969) 120

Sprockhoff (1967) 94.

OĆWIEKA (Woitfick), distr. Pyrzyce

WPOM - 30

Loc.: At various points to W and SW of Oćwieka village.

Des.: At beginning of 19th century 4 elbs (2 rectang., 1 trapez.) were recorded.

Bib.: Dorka (1939) 210

Holsten and Zahnow (1920) 116, 126; Tafel VI, Fol. 13

Siuchniński (1969) 120-121

Sprockhoff (1967) 96.

OSTROMICE, distr. Kamień Pomorski

WPOM - 31

Des.: 1 elb(?). Remains of stone kerb noted in a field. Associated finds include a thin-butted axe and a thick-butted axe (flint) and a frag. of a flint sickle.

Bib.: Siuchniński (1969) 185.

PARSÓW (Wartenberg), distr. Pyrzyce

WPOM - 32

Loc.: 3 km NW of village of Parsów, near road to Żeliszławice.

Des.: 1 elb; in older literature thought to be either rectang. or trapez. Siuchniński suggests it was a circular mound with a rectang. stone cist (on what grounds?). Destroyed.

Bib.: Dorka (1939) 204

Holsten and Zahnow (1920) 113, 126

Siuchniński (1969) 121.

PIASECZNIK (Petznick), distr. Choszczno

WPOM - 33

Loc.: 2 km SE of Piasecznik.

Des.: 2 triang. elbs; L. (1) 15m; (2) 9m.

Dorka suggests these may be modern constructions.

Bib.: Dorka (1939) 172

Siuchniński (1969) 97.

PŁONSKO (Plönzig), distr. Pyrzyce

WPOM - 34

Loc.: 2 km SE of village Płonsko.

Des.: 3 triang. elbs. Recorded at beginning of 19th century. Their lengths 45m - 70m; widths 6m - 7,5m; orientations NE-SW.

Bib.: Chmielewski (1952) 41-42; No. 8

Dorka (1939) 173

Holsten and Zahnow (1920) 116; Tafel V, Fol 10, Nos. II, IV and V

Siuchniński (1969) 122

Sprockhoff (1967) 95.

POMIĘTÓW (Pumptow), distr. Pyrzyce

WPOM - 35

Loc.: NW of Pomietów village.

Des.: At beginning of 19th century an unknown number of elbs (trapez.) were recorded. Orient. E-W.

Bib.: Holsten and Zahnow (1920) 117, 126

Siuchniński (1969) 122

Sprockhoff (1967) 96.

POTĘGOWO (Pottangow), distr. Słupsk

WPOM - 36

Loc.: 12 km SE of the Poganice *TRB* settlement, 12 km from Łupawa river.

Des.: 1 triang. elb; completely destroyed at beginning of 20th century.

Bib.: Jankowska (1980) Table 13

Sprockhoff (1967) 101.

PRZELEWICE (Prillwitz), distr. Pyrzyce

WPOM - 37

Loc.: At various points around the village of Przelewice, mainly to S and E.

Des.: 10 elbs (7 triang., 1 rectang). Recorded in 19th century by von Plön who also mentions that nearly 10 times as many were apparently destroyed in 18/19th centuries. The longest was about 80m. Orient. E-W (6 elbs); SE-NW (2 elbs).

Bib.: Chmielewski (1952) 42; No. 9

Dorka (1939) 174

Holster and Zahnow (1920) 116, 126; Tafel VI, Fol 11

Siuchniński (1969) 123

Sprockhoff (1967) 95.

PRZYBIERNIÓW, distr. Goleniów

WPOM - 38

Des.: Before 1825 there was an unknown number of elbs (triang).

Bib.: Siuchniński (1969) 172.

PRZYWODZIE (Fürstensee), distr. Pyrzyce

WPOM - 39

Loc.: 1 km E of Przywodzie village, near road to Warszyn.

Des.: 4 elbs (most probably rectang.); Orient. SE-NW.

Bib.: Chmielewski (1952) 43; No. 18



Dorka (1939) 133

Holsten and Zahnow (1920) 120, 126

Siuchniński (1969) 124.

ROŚCIN (Rostin), distr. Myślibórz

WPOM - 40

Des.: In 1870's 10 (or 11) elbs (rectang.) were recorded.

Bib.: Siuchniński (1969) 100

Sprockhoff (1967) 141.

RUNOWO, distr. Słupsk

WPOM - 41

Des.: 1 rectang. elb; L. 10m; W. 5m.

Completely destroyed in 1930's. Apparently 4 more elbs existed here.

Bib.: Jankowska (1980) 81; Table 13

Siuchniński (1969) 20.

SIEMIROWICE, distr. Słupsk

WPOM - 42

Loc.: 22 km E of the Poganice *TRB* settlement.

Des.: 1 elb (with a stone cist?).

Bib.: Jankowska (1980) 81; Table 13.

SKOWYROWICE (Schowanz), distr. Łobez

WPOM - 43

Des.: Unknown number of triang. elbs.

Bib.: Chmielewski (1952) 44; No. 26

Siuchniński (1969) 78

Sprockhoff (1967) 93.

SKROŃSKI LAS , distr. Białogard

WPOM - 44

Des.: 1 triang. elb.

Bib.: Siuchniński (1969) 57.

STARA DĄBROWA, distr. Stargard Szczeciński

WPOM - 45

Des.: In the 2nd half of the 19th century 22 elbs (triang. and rectang.) were recorded. Siuchniński cites their length as c. 10m; width 3,5 - 6m.

Bib.: Chmielewski (1952) 43; No.21  
Siuchniński (1969) 92.

STARE CZARNOWO, distr. Gryfino

WPOM - 46

Loc.: 2 km NW of the village.

Des.: Unconfirmed reports of 3 "megalithic graves".

Bib.: Siuchniński (1969) 141  
Wiślański, pers. comm.

SULIBÓRZ, distr. Choszczno

WPOM -47

Loc.: N of Sulibórz.

Des.: 1 elb, L. 40m; W. 12m; Orient. W-E.  
Apparently containing a stone-built cist.

Bib.: Chmielewski (1952) 43; No. 22  
Siuchniński (1969) 98.

SWOCHOWO (Schwochow), distr. Pyrzyce

WPOM -48

Loc.: N and NW of Swochowo village.

Des.: 5 elbs (4 poss. triang.):

(1) L.1.8m; W. 3m; Sprockhoff mentions "stone chamber".

Bib.: Dorka (1939) 195  
Holsten and Zahnow (1920) 119, 126  
Siuchniński (1969) 128  
Sprockhoff (1967) 95.

WARSZYN (Warsin), distr. Pyrzyce

WPOM - 49

Loc.: NW and SE of village.

Des.: 5 elbs in 2 groups:

(1) 2,2 km NW of Warszyn - 3 elbs (rectang.). Orient. E-W.

Chmielewski thought triang.

(2) SE of Warszyn - 2 elbs (rectang.).

Bib.: Chmielewski (1952) 43; No.19  
Dorka (1939) 204  
Holsten and Zahnow (1920) 115, 121, 122, 126  
Siuchniński (1969) 129-130  
Sprockhoff (1967) 97.

WARTIN, distr. Angermünde

WPOM - 50

Loc.: 2,5 km NW of Wartin; on the right bank of Randow river,  
3 km N of natural river crossing point.

Des.: 1 triang. elb located in a multi-period settlement and  
cemetery complex.

L. 35m; W. 6m; Orient. E-W.

Kerb - built of large stones.

Grave 1 - (grave A), at E end ; presumably extended inhumation  
on OLS - no skeletal remains.

Assoc. finds: 2 funnel neck beakers with grooved ornamentation  
on belly, 1 undecorated collared flask.

Pre-barrow settlement - extensive traces of earlier *TRB* culture  
settlement, cultural layer yielded substantial number of pottery  
sherds, frags. of 2 stone axes and a flattish quern stone.

Excav. Eggert 1940-1941.

Bib.: Siuchniński (1956) 7-46

Siuchniński (1969) 200-204; barrow No. 60; Figs. 5 and 6;

Table XXVI - 10, 11(grave), 1-9(settlement).

ŻAŁĘCINO (Sallentin), distr. Pyrzyce

WPOM - 51

Loc.: 3 km N of the village of Żałęcino; about 3 km away from a *TRB*  
culture settlement.

Des.: 3 elbs (apparently trapez.) were recorded in 1826.

Bib.: Dorka (1939) 187

Holsten and Zahnow (1920) 118, 126

Siuchniński (1969) 130.

## MECKLENBURG - BRANDENBURG

ALT PLESTLIN, distr. Demmin

MBG - 1

Loc.: Unknown.

Des.: 3 elbs. Recently noted by a forester (1969). One about 80m long.

Bib.: Schuldt (1972) 131; Nos. 752-754.

ALT STASSOW, distr. Rostock

MBG - 2

Loc.: East of Alt Stassow, in a group of 6 barrows with stone-built chambers.

Des.: 1 rectang. elb? L. 26m; W. 6m; H. 1,3m; Orient. NW-SE.

Of the kerb only the stones along the long sides remain, some still *in situ*. In Schuldt (1966) it is marked as *Hünenbett ohne Kammer* (Textabb. 2) but in Schuldt (1972) as *Urdolmen*.

Bib.: Schuldt (1966) Textabb. 2

Schuldt (1972) 117; No. 87

Sprockhoff (1967) 20; No. 361; Karte 4; Atlasblatt 32, 33.

BARKOW, distr. Lübz

MBG - 3

Loc.: West of Plauer See.

Des.: 1 elb. Excavated 1805; small iron objects.

Bib.: Beltz (1899) 96, 103

Schuldt (1972) 127; No. 571.

BENGERSTORF, distr. Hagenow

MBG - 4

Loc.: Unknown.

Des.: 2 elbs. (1) L. 32,5m; W. 3,25m; Orient. NNE-SSW

Bib.: Beltz (1899) 96 (under Granzin)

Schuldt (1972) 127; Nos. 546-547.

BRÜSEWITZ, distr. Schwerin

MBG - 5

Loc.: Near Brüsewitz (to the South?).

Des.: 1 rectang. elb. Associated with another which had a stone chamber. L. 31m; W. 4,3-4,8m; Orient. E-W

Originally kerb of 36 stones, with a transverse stone row.

Excavated by Lisch in 1839, destroyed during road building.

Bib.: Nilius (1971) 16

Schuldt (1972) 130; No. 680

Sprockhoff (1967) 35, Grave 1.

CHRISTIANENHOF, distr. Rostock

MBG - 6

Loc.: In a wood (near Drusewitz).

Des.: Sprockhoff cites 1 elb while Beltz mentions 2. Also another elb apparently near Fahrenhaupt.

Bib.: Beltz (1899) 98

Schuldt (1972) 118; No. 97

Sprockhoff (1967) 22.

GARVSMÜHLEN, distr. Rostock

MBG - 7

Loc.: Between Alt Gaarz (today Rerik) and Westhof.

Des.: 1 rectang. elb. L. 13,5m; W. 5m; Orient. E-W

At 4,5m from W end there was a large granite boulder (2m long and 1,5m tall) traversing the barrow. W side was very smooth - Beltz thought this was likely to represent a transverse partition dividing the interior into two compartments. "Stone pavement" of flat slabs also found. Skeletal remains of eight persons are considered to be secondary burials, as is the BA urn burial. Flint blade and pottery sherds (now lost).

Excav. Beltz in 1895; destroyed.

Bib.: Beltz (1899) 119-121

Nilius (1971) 95; No. 33

Schuldt (1972) 116; No. 6.

GNEWITZ, distr. Bad Doberan

MBG - 8

Loc.: SE of Gnewitz, on the river Recknitz. Crowns a small, flat hill which stands out in a flat landscape. In a group of stone-chambered barrows.

Des.: 1 rectang. elb. L. 22m; W. 4m; Orient E-W

Mound - grey/brown sand, covered with a multi-layered stone

mantle. Turf line preserved in parts at 0,65m below present day surface.

Kerb - very few stones remain.

Grave 1 - in middle of barrow; a rectang. enclosure 2,5x1,5m, dug into OLS, large slab at E end. Interior filled with earth. Assoc. finds - crushed amphora and undecorated beaker (Schuldt, 1967, Fig. 11), hollow-based arrowhead (EN-C).

Bib.: Schuldt (1966e) 20-25

Schuldt (1972) 118; No. 105; Tafel 89

Sprockhoff (1967) 17; No. 351, grave II; Karte 4; Abb. 5;

Tafel 19, 20; Atlasblatt 28, 29.

GOLDENBOW, distr. Hagenow

MBG - 9

Loc.: On farm of Friedrichshof, near so-called Birch Wood (Birkholz).

Des.: 3 rectang. elbs, parallel to one another (40 paces apart).

9/1 L. 24m; W. 5,5m; H. 1-1,2m; Orient. E-W.

9/2 L. 23m; W. 6m; Orient. E-W.

Circular stone arrangement at W end, pottery sherds scattered throughout the mound.

9/3 L. 33m; W. 5,5m; Orient. E-W.

Pottery sherds and 2 pots containing bones (?); stone scatter in vicinity.

Excav. Ritter 1839; destroyed.

Bib.: Beltz (1899) 96, 102

Ritter (1840d) 26-27

Schuldt (1972) 127; Nos. 548-550

Sprockhoff (1967) 33.

GOLDENBOW, distr. Parchim

MBG - 10

Des.: 3 elbs.

Bib.: Schuldt (1972) 129; Nos. 641-643 (note Schuldt's references are incorrect; they refer to MBG -9).

GORSLOW, distr. Schwerin

MBG - 11

Bib.: Schuldt (1972) 130; No. 684.

GRANZIN, distr. Hagenow

MBG - 12

Loc.: On Haidberg, SE of the highest point and 100 paces from the forest of Bengersdorf.

Des.: 2 elbs; both L. 15m; W. 1,5m; Orient. NNE-SSW.

One was still surrounded by kerb of large boulders, the other, Ritter noted, was "recently robbed of stones".

Bib.: Ritter (1839) 76-77

Schuldt (1972) 127; N. 551.

HARKENSEE, distr. Schönberg

MBG - 13

Des.: 1 elb.

Bib.: Beltz (1910) 98

Sprockhoff (1967) 3.

HELM, distr. Hagenow

MBG - 14

Loc.: Near Helm, on NW slope of Haidberg.

Des.: 1 rectang. elb in a group of other barrows.

L. 16m; W. 7m; H. 1m; Orient. E-W.

Mound - yellowish/red sand, trough-shaped.

Kerb - largest stones at E end.

Interior structures - split sandstones laid out without any apparent order.

Finds - 1 handled jug (Fig. ) with flared-out rim and striped and WWW decoration (EN-C?) (cf. comments in Bakker (1979) 114).

Excav. Ritter 1840.

Bib.: Beltz (1899) 101

Nilius (1971) 96; N. 44; Tafel 16c

Ritter (1840a) B.22-23; No. 3

Schuldt(1972) 127; No. 554

Sprockhoff (1967) 33, Grave III.

KARFT, distr. Hagenow

MBG - 15

Loc.: Between Karft and Puttelkow, in a forest at the edge of a steep slope, near stream.



Des.: 1 trapez. elb. L. 50m; W. 8m; H. 1,3m; Orient. E-W.

Mound - loamy sand heaped up in a trough-like form.

Kerb - large boulders.

Interior structures - at E end many flat, split red sandstones.

A transverse stone wall at c. 7m from E end, and beyond that a circular pit 1,2m in diameter and 1m deep, which contained "charcoal and ashes but no other finds". Beyond this, remains of a human skeleton ( 1 long bone).

Finds - pottery sherds near stones at E end; a heart-shaped piece of amber near skeletal remains (lost).

Excav. Ritter 1841.

Bib.: Nilius (1971) 96; No. 47

Ritter (1842) 13, 18-19

Schuldt (1972) 127; No. 556

Sprockhoff (1967) 34.

KRITZOW, distr. Schwerin

MBG - 16

Loc.: NW of Kritzow, about 400m from junction to Karnin.

Des.: 1 rectang. elb; L. 22,5m; W. 6,5m; H. 1m; Orient. E-W.

Kerb - only preserved in parts, largest stones at W end; NW corner stone 2,5m tall.

Bib.: Beltz (1899) 96

Schuldt (1972) 130; No. 687

Sprockhoff (1967) 34; No. 402; Karte 10; Tafel 47; Atlasblatt 51, 52.

LÜBOW, distr. Wismar

MBG - 17

Loc.: In a field.

Des.: 1 elb with many split sandstones laid out without order; among sandstones ashes and burnt bones were found; unburnt horse's skull in vicinity. There were also found pottery sherds of five vessels. In ashes 2 'ordinary' axes of polished. light grey flint, worn out at the cutting edges.

Bib.: Beltz (1899) 100

Lisch (1838) S 36-38

Nilius (1971) 98; No. 67

Sprockhoff (1967) 11.

PERDÖHL, distr. Hagenow

MBG - 18

Loc.: Near Perdöhl, on a slight rise.

Des.: 2 elbs.

18/1 L. 16,5m; W. 4,8m; H. 1m; Orient. NW-SE.

Some charcoal found at SE end.

18/2 L. 29m; W. 4m; H. 1m; Orient. E-W.

Mound divided into 3 segments by 2 transverse stone rows. 2nd compartment filled with stones.

Grave 1 - in 2nd compartment, underneath the stones, extended human skeleton on OLS, head to N, an adult (?).

Finds - pottery sherds scattered in the mound.

Excav. Ritter 1840.

Bib.: Beltz (1899) 102

Ritter (1840c) 24, (1841b) 30-31

Schuldt (1972) 127; Nos. 558-559

Sprockhoff (1967) 32.

PÖGLITZ, distr. Grimmen

MBG - 19

Loc.: By road between Pöglitz and Rekentin, at the edge of the Rekentin estate.

Des.: 1 rectang. elb. L. 47m (162m?); W. 4,4-5m; Orient. E-W.

W end uncertain. At E end traces of double kerb; enclosing stones only 0,3-0,6m above surface. Interior divided by 3 transverse rows into compartments of 7,5m, 6,6m and 2,2m respectively (from E end). Rectang. enclosure built of small stones (1,6x0,47-0,57m) was found in the 2nd compartment.

Excav. 1849?

Bib.: Sprockhoff (1967) 76; No. 516; Karte 22.

PUTTELKOW, distr. Hagenow

MBG - 20

Loc.: N of Puttelkow, in a field near large peat bog.

Des.: 1 elb. L. 33m; W. 5,5m; H. 1,3m; Orient. E-W.

Interior contained many split, flat stones laid out without order; some pottery sherds.

Excav. Ritter 1840; destroyed.

Bib.: Nilius (1971) 103; No. 96

Ritter (1841a) 30

Schuldt (1972) 127; No. 560

Sprockhoff (1967) 33.

ROSENBERG, distr. Schwerin

MBG - 21

Des.: 1 elb explored by Capt. F.W.Zinck in the early 19th century.

Bib.: Beltz (1899) 100

Schuldt (1972) 130; No. 692.

ROTHENMOOR, distr. Sternberg

MBG - 22

Loc.: NW of Rothenmoor, at the S end of Qualitz forest, at the edge of a larger group of barrows.

Des.: 1 rectang. elb. L. 15m; W. 7m; Orient. SE-NW.

Kerb - built of large stones. Mound made of sandy-clay earth with many stones.

Grave 1 - at E end. A rectangular pit (3x1,5m, 1m deep) lined with stones at the edge and filled with dark sandy earth. At the bottom of the pit there were found an undecorated funnel-neck beaker and an undecorated, 2-handled amphora (Schuldt, 1967, Fig. 4). In the fill of the grave, at the level of the OLS was a richly decorated bowl (Schuldt, *ibid.*, Fig. 5).

Bib.: Nilius (1971) 103; No. 104

Schuldt (1967) Fig. 2, 3, 4 and 5

Schuldt (1972) 131; No. 716; Tafel 30b.

SIGGELKOW, distr. Parchim

MBG- 23

Loc.: NE of Siggelkow, on the left bank of the Elde river.

Des.: 2 elbs. (1) L. c. 100m; W. 6m; Orient. N-S.

Bib.: Beltz (1899) 96

Schuldt (1972) 129; Nos. 667-668

Sprockhoff (1967) 38; No. 416; Karte 12; Atlasblatt 60.

STOLZENBURG, distr. Pasewalk

MBG - 24

Loc.: 1,5 km NW of Stolzenburg, near road to Blumenhagen.

Des.: 1 rectang. elb. L. 20-30m; W. 3m; Orient. N-S.

Mound with substantial stone cairn inside. Rectang. stone cist found (2 x 1,2m and 1,5m tall) built of 6 slabs (E-W oriented); dug into OLS to the S of stone cairn.

Finds - remains of a human skeleton, pottery sherds and 2 flint implements found in a cist (lost).

Excav. Stubenrauch 1897.

Bib.: Siuchninski (1969) 225, site No. 7.

STRALENDORF, distr. Schwerin

MBG - 25

Loc.: On the W edge of Stralendorf, parallel to village street, in flat landscape.

Des.: 1 triang. elb, largest surviving in Mecklenburg. Prior to the excavation covered with small gardens, sheds, piles of wood etc. L. 125m; W. 3,5-1,5m; H. 1,5-0,5m; Orient. S-N.

Mound - made entirely of earth.

Kerb - large boulders placed in very shallow trenches, arranged in order of size from S (1,5m) to N (0,5m). No boulders at S end (entrance?). Very regular narrowing from S (3,5m) to N (1,5m).

Three transversely placed boulders 38m from S end - recent.

Graves - all dug into OLS.

Grave 1 - 13m from S end. Massive stone packing (2 x 3m) traversing the width of the barrow, 1m deep into OLS. Stones firmly packed round the edges of the pit, loose stones and soil fill in the middle. In lowest levels of the pit there was dark brown fill packed against the stones. An undecorated bowl and a handled jug with high neck and deep stroke decoration (Schuldt E., 1966, Fig. 8).

Grave 2 - 20m from S end. E-W oriented pit (2,5 x 1,2m and 0,6m deep). Stones around the edges firmly placed against the sides of the pit. Interior filled with dark brown, sandy earth and a few stones. Part of a retouched flint dagger found (ibid., Fig. 9a).

Grave 3 - 22m from the S end. Oval pit, E-W oriented (2,2 x 1,2m) not lined with stones. At depth of 0,6m from the OLS, 6 undecorated sherds of an amphora (ibid., Fig. 9b). A flint blade, 2 scrapers (ibid., Fig. 9d and e) and a thick-butted axe of grey flint found at bottom of pit.

Grave 4 - 34m from S end. NW-SE oriented pit (3,5 x 2m and 0,8m deep), straight sides and rounded corners, filled with dark brown soil. At various depths below OLS, sherds of a beaker with shallow longitudinal grooves on shoulder and belly (ibid., Fig. 11a). Just above the pit 2 hollow-based arrowheads (ibid., Fig. 15c and d); 1 more arrowhead in vicinity - association with the grave not certain.

Grave 5 - 37m from S end. Oval pit underneath large stones. Among them were sherds of an amphora with deep stroke ornament (ibid., Fig. 12a); breakages apparently modern. In fill of the pit many undecorated sherds and several flint blades (ibid., Fig. 12b).

Grave 6 - 41m from S end. A shallow pit on S-N axis (2,2 x 0,8m). At N end there was a flat flint axe (ibid., Fig. 13b), 2 leaf-shaped arrowheads (ibid., Fig. 13c and d). A large pot handle with grooves and numerous small sherds found on S edge (ibid., Fig. 13a).

Grave 7 (?) - 59m from S end (sector 'r'). A massive rectangular stone packing (3,5 x 3m) with large stones round the edges and what appears to be looser stone fill in the middle. This structure not mentioned in the report and its function or associated finds are not known.

Dating - all pottery from graves belongs to TRB EN-C/MN I. Excav. Schuldt May 1964. Finds - Museum Schwerin.

Bib.: Schuldt (1965) 9-23

Schuldt (1972) 120; No. 694

Sprockhoff (1967) 34; No. 403 (under Zülów).

WEHRLAND, distr. Greifswald

MBG - 26

Loc.: 2 km SW of Wehrland estate, on both sides of road between Wehrland and Weibnitz.

Des.: 2 trapez. elbs. In a group of 4 barrows (Sprockhoff mentions three).

(1) L. 44m; W. 6-4m; Orient. NE-SW.

Incompletely preserved kerb with many stones not *in situ*.

NE end marked by 3 stones; some hollows towards NE end.

(2) L. 75m; W. 4-5m; Orient. NE-SW.

Kerb stands in a mound apparently 16m wide.

Bib.: Nilius (1971) 16

Sprockhoff (1967) 85; Nos. 554-555; Karte 24; Atlasblatt 122 and 123.

WITTENBURG, distr. Hagenow

MBG - 27

Loc.: Between Hagenow and Helm, on heath near wood.

Des.: 1 rectang. elb. L. 8,5m; W. 6m; Orient. E-W.

The kerb stones were round rather than tall, and contained a mound of yellow sand (similar to the surrounding soil). There were stones here and there inside the mound but without order. An axe of dark, grey flint and a narrow chisel (lost).

Excav. Ritter 1840; destroyed.

Bib.: Nilius (1971) 105; No. 123

Ritter (1840b) 23-24

Schuldt (1972) 127; No. 562

Sprockhoff (1967) 33.

WOLLSCHOW, distr. Prenzlau

MBG - 28

Loc.: 2 km SE of Wollschow, in a large cemetery of stone cist graves, located upon earlier settlement.

Des.: 1 trapez. elb. L. 23m; W. 7-4m; H. 1,5m; Orient. SE-NW.

At SE end remains of a large cist. 2 large slabs (1,9m and 1,7m) define area 0,6 - 0,7m wide. Original length unknown.

Cover slab 1,2 x 1,1m. At NW end remains of a smaller cist

(1,15 x 0,55m inside). Contained 3 skeletons of children and

a handled cup (Nilius, I., 1971, Taf. 48b).

In the middle of the mound there was stone packing. According to Nilius (ibid., ) a drawing in the Markische Museum in Berlin showed that there was a "burnt skeleton" and a flint knife.

Resemblance to finds from Wartin (WPOM - ).

Bib.: Nilius (1971) 105, 125; Taf. 48a and b

Schuldt (1972)

Sprockhoff (1967) 56-58; No. 462 (grave I); Karte 20; Abb. 12; Taf. 71; Atlasblatt 76.

ZARNEWANZ, distr. Rostock

MBG - 29

Loc. NNE of Zarnewanz.

Des.: 1 rectang. elb. L. 18m; W. 5,2m; H. c.1m; Orient. N-S.

Largest kerbs stones at N end. Mound of 0,2m layer of sand covering a layer of stones. Definitely 2 (possibly 3) transverse rows of stones; the middle area was 3 x 2m in size. No finds noted.

Excav. Beltz 1899

Bib.: Beltz (1899) 115-116

Nilius (1971) 105-106; No. 130

Schuldt (1972) 118; No. 142

Sprockhoff (1967) 15, (grave IV); Karte 6.



## LOWER SAXONY

BARSKAMP, distr. Lüneburg

LSAX - 1

Loc.: SW of Barskamp.

Des.: 2 elbs.

1/1 Trapez. L. 37m; W. 4-3m; Orient. SE-NW.1/2 Rectang. L. 40m; W. 4m; Orient. SE-NW.

Both elbs have badly damaged stone kerbs with only a few stones remaining *in situ*.

Bib.: Sprockhoff (1975) 45; Nos. 710-711; Karte 11; Atlasblatt 56-57.

BAVENDORF, distr Lüneburg

LSAX - 2

Loc.: W of Bavendorf, on a heath in the Mausetal valley.

Des.: 1 rectang. elb; L. 27m; W. 3m; H. 1m; Orient. N-S.

Excavation by Lienau at the beginning of this century revealed a 'stone paving' (6 x 1m) in the middle of the barrow. At one end of paving, in a circular setting of 6 stones, were found the remains of a 'burnt' skeleton of a 20(?) - year-old female; a bowl was also found.

In the middle of the flat pavement (sandstones) were 11 pottery sherds - some ornamented with grooves - and 3 transverse arrowheads.

Bib.: Dehnke (1940) 66; Tafel XII-7

Lienau (1914) 11; Tafel I-11

Sprockhoff (1975) 43; No. 702; Karte 10.

HORNDORF, distr. Lüneburg

LSAX - 3

Loc.: NE of Horndorf, in a group of long and round barrows.

Des.: 2 rectang. elbs, parallel to each other.

3/1 L. 30m; W. 5m; Orient. N-S.

Most of the kerb stones have fallen, only 1 at S end and 2 at W end still standing.

3/2 L. 32m; W. 5m; Orient. N-S.

Most of the kerb stones fallen, depressions where stones originally stood.

Bib.: Sprockhoff (1975) 41; Nos. 694-695; Karte 10; Abb. 14;  
Atlasblatt 46-47.

JASTORF, distr. Uelzen

LSAX - 4

Loc.: E of Jastorf.

Des.: 1 elb (triang?); L. 14m; W. 4,7m; Orient. N-S.

Very badly damaged elb, original length cannot be established with certainty since both ends damaged. Slight rise in the middle of mound.

Bib.: Sprockhoff (1975) 66; No. 775; Karte 16; Atlasblatt 75;  
(all information after von Estorff 1846).

NIENDORF, distr. Uelzen

LSAX - 5

Des.: 3 rectang. elbs in a large concentration of long mounds with stone chambers.

5/1 L. 36m; W. 5m; Orient. NE-SW.

51 kerb stones still standing in the middle of 19th century.

5/2 L. --2m; W. 3,5-4m; Orient. NE-SW.

One of the longest mounds in this area. In mid-19th century there were 116 stones in the kerb.

5/3 L. 50m; W. 2,5m; Orient. SE-NW.

Most of the kerb stones have fallen, but a few are still *in situ*.

Bib.: Sprockhoff (1975) 61; No. 762, 764 and 766;  
Atlasblatt 73-73, 81.

OLDENDORF, distr. Lüneburg

LSAX - 6

Loc.: S of Oldendorf.

Des.: 2 rectang. elbs (one with a later? stone-built chamber).

6/1 L. 43m, W. 7m; H. 1,5m; Orient. SE-NW.

Only a few kerb stones remain *in situ*, most fallen outwards.

NW end possibly damaged during road construction.

6/2 l. 80m; W. 6-6,5m; H. 1,5m; Orient. SE-NW.

In the W half of the mound there was a multi-layered rectang.

'stone pavement' (4,8 x 3,6m) touching directly on the kerb.

Underneath this pavement a faint rectang. staining (remains

of a timber-built chamber?). Stone-built chamber contained  
Walternineburg and Globular Amphora culture pottery.

Bib.: Laux (1971) 195

Sprockhoff (1975) 37-38; Nos. 685-686; Karte 9; Abb 12;  
Atlasblatt 42-43.

ROHSTORF, distr. Lüneburg

LSAX - 7

Des.: 1 rectang. elb in a group of long mounds with stone chambers.

L. 40m; W. 5m (in 8m wide mound-spread); Orient. NE-SW.

NE end difficult to establish but kerb stones preserved on other  
sides. SW end stones have fallen outwards, some of the long wall  
stones still *in situ*.

Bib.: Sprockhoff (1975) 42; No. 700; Karte 10; Atlasblatt 51.

SACHSENWALD, distr. Herzogtum Lauenburg

LSAX - 8

A large concentration of over 30 mounds, most of them rectang.  
but some trapez., in five distinct groups. Exceptionally for  
this location, in order to avoid confusion, references are cited  
after every single elb.

#### Group 1 - Alter Hau and Fahrenhorst

Loc.: On the upper terrace of the Bille river and to the N of the  
smaller river Aner.

Des.: A group of 8 elbs: 6 of them (8/1 - 8/6) in the part of the  
forest called Alter Hau and further 2 (8/7 - 8/8) in the section  
called Fahrenhorst.

8/1 L. 154m; W. 8,5m; H. 0,7m; Orient. SE-NW.

Not excavated.

Bib.: Kersten (1951) 431; No. 911

Sprockhoff (1966) 79; No. 289; Karte 32; Atlasblatt 119.

8/2 Rectang. L. 75m; W. 4m; H. 0,5m; Orient. E-W.

Not excavated.

Bib.: Kersten (1951) 431; No. 912

Sprockhoff (1966) 97; No. 290; Karte 32; Atlasblatt 119.

8/3 Rectang. L. 50m; W. 3,25m; H. 0,5-0,7m; Orient. NE-SW.

Kerb - only stones of the long sides remain, many fallen outwards. Small, pillar-like stones 0,75 - 0,95m in height, sunk into the ground by their own weight (0,2 - 0,3m).

Interior structures:

(1) 8m from SW end - a dark grey patch (1,5 x 0,7m) on OLS, a few undecorated sherds.

(2) 11m from SW end (area c) - an oval patch c. 1m in diameter and 0,1m thick. Burnt 'brick red' with charcoal remains (hearth?).

(3) 14m from SW end (area d) - an oval pit (1,25 x 0,7m; 0,2m deep), containing charcoal and daub.

(4) 35m from SW end (area g) - a circular pit (1m in diameter and 0,5m deep), above it pottery sherds belonging to a funnel neck beaker with deep grooves on shoulder (Sprockhoff 1954, Fig. 2-1).

Grave 1 - 3m from SW end (area a) - a circular pit (1m in diameter and 0,5m deep), bowl-shaped at bottom. Interpreted by Sprockhoff as remains of a cremation, preceding the construction of the kerb(?). On surface and in pit were found a sherd of a beaker with deep grooves under rim and on belly, and a few sherds of rim and flat plates (*Ibid.*, Fig. 2 - 2-5, 3).

Grave 2 - 16m from SW end (area e) - a rectang. outer pit (1,5 x 0,75m and 0,3m deep) with grey fill, rectang. outline, trough-like in section.

Grave 3 - 17m from SW end (area e) - a rectang. inner pit (1,7 x 0,7 and 0,4m deep) with grey fill, rounded bottom.

Other finds - only sporadic finds of sherds and flint.

Bib.: Kersten (1951) 431; No. 913

Sprockhoff (1954) 1-16

(1966) 79-80; No. 291; Karte 32; Atlasblatt 120.

8/4 Rectang. L. 30m; W. 4m; H. 0,6m; Orient. ESE-WNW.

Kerb - stones between 0,2 and 0,5m tall, larger at S end, otherwise similar to LSAX - 8/3.

Interior structures:

(1) a scatter of stones noted towards NW part of barrow.

(2) feature A - a rectang. area, grey/black in colour,

(3 x 1,25-1,75m) parallel to main axis, very clear edges. First layer 0,1m thick, containing charcoal; next layer 0,1m thick, very hard red/brown, interlaced with parallel bands filled with soil, running obliquely into OLS. To W of this feature small circular patches of grey/black colouration, all surrounded by a roughly rectang. layout of stones.

(3) feature B - to the N of the NE corner of A; circular pit (0,4-0,5m in diameter; 0,4m deep); in upper fill tiny pieces of cremated bone and pottery sherds belonging to 6 different vessels.

Other finds - some pottery sherds and pieces of flint found in the mound.

Excav. Sprockhoff 1951, reconstructed.

Bib.: Kersten (1951) 432; No. 918

Sprockhoff (1952) 23-28

(1966) 80; No. 292; Karte 32; Atlasblatt 120.

8/5 Rectang. L. 40m; W. 4,5m; Orient. SE-NW.

Kerb -very badly damaged.

Interior structures:

(1) 10m from NW end - a pile of stones lying across the width of barrow.

Grave 1 - 34m from NW end, a clearly rectang. pit (1,5 x 0,5m and 0,4m deep), bright yellow, occasionally very hard fill.

Other finds - 2 undecorated sherds at NW end.

Excav. Sprockhoff 1952, reconstructed

Bib.: Kersten(1951) 432; No.916

Sprockhoff (1954) 1-16

(1966) 80; No. 293; Karte 32; Atlasblatt 121.

8/6 Rectang. L. 25m; W.3m; H. 0,3m; Orient. N-S.

Kerb - large boulders; at N end 4 boulders form an entrance; S end well defined.

Interior structures:

(1) 11m from N end - a circular pit (0,75m in diameter and 0,4m deep), fill of grey earth, stone pendant.

Grave 1 - 13m from N end, a rectang. pit (2 x 0,6m and 0,5m deep), nearly vertical sides and very even bottom laid out with

2cm thick layer of pebbles. Light brown fill at the top gradually changing to grey. No finds.

Other finds - a flat disc of quartzite.

Bib.: Kersten (1951) 431; No. 914

Sprockhoff (1954) 1-16

(1966) 80; No. 294; Karte 32; Atlasblatt 121

8/7 Rectang. L. 35m; W. 5m; H. 0,5m; Orient. N-S.

Bib.: Kersten (1951) 396; No. 11

Sprockhoff (1966) 81; No. 303b.

8/8 Rectang. L. 28m; W. 5m; H. 0,45m; Orient. N-S.

Bib.: Kersten (1951) 396; No. 12

Sprockhoff (1966) 81; No. 303c.

#### Group 2 - Friedrichsruhe

Loc.: S of Friedrichsruhe.

Des.: A group of 10 possible elbs (7 rectang., 3 trapez.). None show traces of stone-built chambers, but they have not been excavated. All kerbs very badly damaged but in most, traces of stones are clearly visible. Sprockhoff (1966, 79) mentions 5 barrows in connection with this group but does not describe them, Karte 33.

8/9 Rectang. L. 45,5m; W. 12-11,5m; H. 0,3-0,9m; Orient. SE-NW.

Kersten (1951) 397; No. 21.

8/10 Trapez. L. 37m; W. 7,5-10,5m; Orient. NW-SE.

Kersten (1951) 397; No. 22.

8/11 Trapez. L. 19m; W. 7,5-10m; Orient. ESE-WNW.

Kersten (1951) 397; No. 23.

8/12 Trapez. L. 42m; W. 9,5-13,5m; Orient. SE-NW.

Kersten (1951) 397; No. 24.

8/13 Rectang. L. 19m; W. 8m; Orient. NE-SW.

Kersten (1951) 403; No. 185.

8/14 Rectang. L. 41m; W. 8m; Orient. N-S.

Kersten (1951) 403; No. 186.

8/15 Rectang. L. 12m; W. 6m; Orient. SE-NW.

Kersten (1951) 403; No. 187.

8/16 Rectang. L. 52m; W. 6m; Orient. N-S.

Kersten (1951) 403; No. 188.

8/17 Rectang. L. 24,5m; W. 5m; Orient. SE-NW.

Kersten (1951) 403; No. 189.

8/18 Rectang. L.22m; W.5m; Orient. NE-SW.

Kersten (1951) 403; No. 190; Fig. 125 (includes all above).

### Group 3 - Brandhorst

Loc.: SE of group 2; in the part of the forest called Brandhorst

Des.: 2 rectang. elbs.

8/19 L. 43m; W. 3,5-4m; Orient. SE-NW.

Kersten (1951) 421; No. 681

Sprockhoff (1966) 80; No. 296; Karte 33; Atlasblatt 122.

8/20 L. 36m; W. 4m; Orient. SE-NW.

Kersten (1951) 421; No. 680

Sprockhoff (1966) 80; No. 297; Karte 33; Atlasblatt 122.

### Group 4 - Saupark

Loc.: In the part of the forest called Saupark.

Des.: A group of poss. 5 rectang. elbs. None showing evidence of stone built chambers.

8/21 L. 42m; W. 3m; Orient. NE-SW.

Kersten (1951) 421; No. 683 (different dimensions)

Sprockhoff (1966) 81; No.300; Karte 33; Atlasblatt 125.

8/22 L. 52m; W. 4m; Orient. NE-SW.

Kersten (1951) 421; No. 684 (different dimensions)

Sprockhoff (1966) 81; No. 301; Karte 33; Atlasblatt 125.

8/23 L. 61m; W. 3m; Orient. N-S.

Kersten (1951) 421; No. 689.

8/24 L. 45m; W. 4,5m; Orient. SSE-NNW.

Kersten (1951) 421; No. 691.

8/25 L. 25m; W. 5m; Orient. N-S.

Kersten (1951) 421; No. 691; Fig. 136 (includes Nos. 683-4 and 689).



Group 5 - Heinhorst

Loc.: To the N of group 4; in the part of the forest called Heinhorst.

Des.: A group of poss. 6 rectang. elbs. All badly damaged, none showing traces of stone-built chambers.

8/26 L. 17m; W. 5m; Orient. E-W.

Kersten (1951) 412; No. 495.

8/27 L. 55m; W. 3,5m; Orient. N-S.

Kersten (1951) 412; No. 497.

8/28 L. 18m; W. 3,5m; Orient. N-S.

Kersten 412; No. 499.

2/29 L. 13m; W. 3m; Orient. N-S.

Kersten (1951) 13m; W. 3,5m; Orient. N-S.

8/30 L. 25m +; W. 5m; Orient. N-S.

Very prominent; stones preserved in the kerb suggest very large boulders. Burnt pieces of flint were found on the surface.

Kersten (1951) 413; No. 513 (note greater dimensions)

Sprockhoff (1966) 81; No. 302; Karte 33; Atlasblatt 125.

8/31 L. 57m; W. 4,5m; Orient. NNE-SSW.

Kersten (1951) 413; No. 514; Fig. 132 (includes all above).

TOSTERGLOPE, distr. Lüneburg

LSAX - 9

Loc.: 1,5 km NW of Tosterglope.

Des.: 1 trapez. elb. L. 80m; W. 4m (E)-2m (W); Orient. SE-NW.

In SE part, about 10m from the end, a chamber built of wooden planks (3,9 x 1,35m) was found. Remains of human skeleton as well as pottery sherds also found. Apparently the mound also contained a stone-built chamber (Dehnke cites description of Wachter 18 ). In and around the mound, a large amount of pottery and many flint implements were found; unfortunately these became mixed with pottery sherds from the wooden chamber. Possibly pre-barrow settlement layer. Sherds diagnostic of Haassel - Fuchsberg style.

Bib.: Dehnke (1940) 68; Tafel III, 8-23

Sprockhoff (1975) 46; No. 713; Karte 11; Atlasblatt 58.

## DENMARK

AISTRUPSGAARDE, distr. Viborg

DNK - 1

Des.: 1 rectang. elb (?).

L. 13-14m; Orient. ESE-WNW.

A small mound covering a grave.

Grave 1 - a rectang. structure 1,75 x 0,5m, 0,25m deep into OLS; built of stones with timber chamber (?) inside.

Finds - at E end a thin-butted flint axe and a flint blade were found.

Bib.: Brøndsted (1957) Fig. on page 191

Johansen (1917) 143

Thorvildsen (1941) 81; No. 53.

BARKAER, distr. Randers

DNK - 2

Loc.: About 35 km from open sea, on an elevation of about 200 x 200m in area which rises 6m above flat surroundings. Originally the site was on an island in Korup Sø which formed an inlet of Kolind Sund, now completely drained.

Des.: 2 rectang. elbs lying parallel to one another about 10m apart.

2/1 (northern) L. 85-90m; W. 8m; H. 0,5m. Orient. E-W.

Mound - made of sand, incorporated large quantity of cultural debris.

Enclosure - constructed in two phases (1st phase - c. 65m long) and terminated at E end with a transverse bedding trench which contained stone packing and traces of individually placed timber posts (facade?). The long walls were made of stones (and possibly timber posts at certain points) edged on both sides with multi-layered stone paving (cf. DNK-18). A large stone block formed SW corner.

Interior structures -

(1) Traces of post-holes were found throughout the interior, on occasions forming two parallel rows (Glob interpreted these as a double row of roof-bearing posts). Distribution of other post-holes suggests that some may represent remains of small

timber structures ('houses') either contemporary with or pre-dating the main enclosure.

(2) 29 transverse partition walls were found dividing the interior into compartments roughly 3 x 8m in size. Partitions were built of a dozen or so stakes, spaced 20-25cm apart across the whole width of the enclosure. The fill of each compartment differed in quantity of charcoal.

Graves 1 and 2 - 2 graves of Konens Høj type (?), lying side by side at the E end of the 1st phase of the enclosure's construction. Presumably contemporary with one another.

Finds - in 2 pairs of large post-holes, deposits of about 50 amber beads of various shapes, 1 collared flask and 2 pieces of copper were found. At other points in enclosure burnt cattle bones were found in a pit; 1 thin-butted axe and half a dozen broken ones, 2 flint daggers and many broken ones, pottery sherds etc. Pottery was also found in the facade trench.

Earlier settlement traces -

(1) Traces of Mesolithic occupation - small flakes, blades, flake axes, core scrapers and microliths, diagnostic of early Gudenaa(?) complex

(2) Traces of TRB settlement - domestic debris throughout the area of enclosure, layers of oyster and mussel shells, stone querns etc.

2/2 (southern) L. 85-90m; W. 6 m; H. 0,5m; Orient. E-W.

Mound - same as 2/1.

Enclosure - constructed in three phases (phase 1 - 67,5m long, phase 2 - 9m long). Otherwise similar to 2/1.

Interior structures -

(1) Traces of post-holes found throughout the interior (Glob interpreted them as a single row of roof-bearing posts).

Distribution of post-holes around the grave reveals similarities to timber structure surrounding central grave at Bygholm Nørre-mark (DNK-4).

(2) 30 transverse partition walls (see 2/1)

Grave 1 - stone-built cist, located at E end of phase 1 enclosure.

Grave 2 - Konens Høj type (?) grave associated with the 2nd phase of enclosure construction.

Earlier settlement traces - same as 2/1

Bib.: Glob (1948) 1-12; Figs. 1-11

(1975) 10-14

Madsen (1979) 306; No. 12; Fig 5a.

BRONDUM, distr. Ribe

DNK - 3

Des.: 1 low elb (?).

Grave 1 - a rectang. structure 4 x 2m in size. Orient. ENE-WSW. 2 parallel rows of stones 1m apart formed long sides of the grave, inside rectang. pit 3m long and 0,25m deep with stone lining at the bottom. At each end of this pit there was an individual pit (0,3m wide and 1m long, 0,4m deep); post-hole at each end(?). Konens Høj grave according to Madsen's classification.

Finds - 1 thin-butted polished flint axe, 4 disc-shaped amber beads, 3 irregular amber beads.

Bib.: Madsen (1972) 130-131; Fig. 4

(1979) 308; No. 23; Fig. 2f.

BYGHOLM NØRREMARK, distr. Vejle

DNK - 4

Des.: 1 trapez. elb. L. 60m; W. 13(E)- 4m (W); Orient. E-W.

A trapez. bedding trench suggests a timber-built enclosure.

Interior structures:-

(1) At E end remains of a N-S oriented building (4 x 8m); traces of 4 posts in a centrally placed bedding trench, surrounded with individually placed posts (up to 2m apart); associated pottery - EN-C megalithic beaker.

(2) W of (1) - traces of an E-W oriented building, oval in plan (6 x 12m); 4 centrally placed post-holes interpreted as roof-bearing posts; 2 transverse rows of stake-holes, apparently later.

(3) At W end, traces of a rectang. building (2 x 4m) built on a framework of posts; no visible interior supports.

Grave 1 - within structure (2). E-W oriented grave, on OLS, placed between two central posts; traces of a timber structure (coffin?) placed in a framework of stones. Madsen interpreted this as Konens Høj type grave. Traces of an inhumation seen in stained ground; teeth suggest a young person of 13-15 years of age. Assoc. finds - an amber bead and an arrowhead.

Grave 2 - E of structure (3); an E-W oriented pit in which remains of a wooden, plank-built coffin were found; placed in a framework of stones. Remains of 4 adults, laid in pairs - one pair with heads to east, the other to west. No grave-goods. Other features - later elb rebuilt, surrounded by a double stone kerb and containing MN passage grave.

Bib.: Madsen (1979) 307; No. 21; Fig. 5b  
Rønne (1979).

FORUM, distr. Ribe

DNK - 5

Des.: 1 elb (?). L. 17m; H. 0,75m; Orient. E-W

Grave 1 - a rectang. stone-built enclosure, dug into OLS; 2,9 x 0,95m in size; lying ENE-WSW; narrow ends open (similar to Troelstrup grave ?); Johansen 1917, Fig. 1.

Finds - 1 thin-butted polished flint axe (*Ibid.* Fig. 2), collared flask (*Ibid.* Fig. 3), plain flat-bottomed beaker (*Ibid.* Fig. 4).

Bib.: Johansen (1917) 131-147; Figs. 1-4  
Thorvildsen (1941) 84; No. 92.

HARREBY, distr. Haderslev

DNK - 6

Des.: 1 trapez. elb. L. 18,5m; W. 3/1m; Orient. E-W.

Enclosure - trapez. foundation trench containing stone packing and traces of individually placed, burnt posts. Trench on average 0,6m wide and 0,7-0,8m deep at E end and 0,5-0,6m wide and 0,3-0,4m deep at W end. 14,5m from E end a transverse trench divided the interior into 2 parts.

Grave (?) - no traces of a grave structure, but pottery sherds of EN-C were found to one side of the enclosure, N of the

enclosure unornamented EN-C pottery sherds.

Bib.: Madsen (1979) 308; No. 24; Fig. 4a

Rieck (1982) 98-101; Fig. 2.

HEJRING, distr Aalborg

DNK - 7

Des.: 1 elb. Orient. E-W.

Grave 1 - a rectang. structure set on OLS (5 x 3,4m), N-S oriented; outer walls built of stone. Interior space 2,6 x 1,4m; inner sides (except N) and roof made of wooden planks. Evidence of burning.

Finds - a thin-butted axe, amber beads.

Grave 2 - a rectang. structure set on OLS, N-S oriented; pit found at N end (for timber post?); S end - large stone.

Evidence of burning.

Finds - 130 amber beads.

C-14 dates associated with the graves:

K-2394, K-2395, K-2396, K-2397 - mean date 2655±100 bc

Pottery of EN-B type associated with the barrow.

Bib.: Madsen (1979) 303, 306; No. 5; Fig. 3b.

LINDEBJERG, distr. Holbaek

DNK - 8

Loc.: On a low, flat, sandy elevation in an area of boulder-clay plain.

Des.: 1 rectang. elb. L. 36m+; W. 6,5m; H. 1m; Orient. E-W.

Mound - made of irregular layers of sand; badly damaged through erosion and sand quarrying.

Kerb - N, S and W sides constructed of granite boulders, many pulled out. Open at E end. Surrounded on N, S and W by multi-layered cobbling of stones up to 2m wide in places.

Grave 1 (feature A) - a trapez. setting of stones (5,6 x 2,7-1,7m) open at E end; large stones at W end. From within the interior towards E, various linear arrangements of stones were noted whose interpretation remains uncertain. Regular layout of enclosure, together with charcoal traces, suggests that this structure may represent remains of a timber-built chamber

set within a stone framework.

At E end of the enclosure was a linear feature (N-S oriented stone packing; 4 x 1,3m and 0,9m deep) which is thought to be contemporary with feature A. Underneath stone packing, 2 post-holes (one at each end) and traces of timber plank in the middle were found. Blocking -off device for early phase of barrow construction (?).

Associated finds - 2 beakers and sherds from another.

Grave 2 (feature B) - at E end of the enclosure; U-shaped arrangement of stones open at W end; paving of stones (3,6 x 0,8m) in the middle. 4 slots parallel to paving suggest use of timber planks for construction of inner and outer walls.

At E end of barrow (further E of feature C) a stone arrangement (feature D) was noted; thought to be contemporary with grave 2. It appeared as a stone arrangement consisting of three elements: N-S oriented ditch filled with stones, U-shaped stone enclosure (3 x 2,5m) open to E, a line of stones to S of enclosure.

Dark staining to W of this structure interpreted as turf-stack.

Elaborate termination of barrow at end of phase 2 (?).

C-14 determination

K-1659 : 5010±100 bp or 3060±100 bc (charcoal, *Quercus*, from feature C).

Earlier settlement traces - traces of Mesolithic and Neolithic settlement were plentiful in the area upon which barrow was constructed.

Excav. Liversage 1970-1971.

Bib.: Madsen (1979) 308; No. 29; Fig. 4c

Liversage (1980) 85-152.

LOMBORG, distr. Ringkøbing

DNK - 9

Des.: 1 rectang. elb. L. 20m; W. 10m; Orient. E-W.

Grave 1 - of unidentified form ('earth grave').

Bib.: Johansen (1917) 131-147

Madsen (1971) 305; No. 6.



## MOSEGÅRDEN, distr. Århus

DNK - 10

Des.: 1 rectang. elb. L. 90m+; W. 15m; Orient. SE-NW.

Enclosure - a rectang. area delimited on long sides by a bedding trench with traces of burnt, split trunks (c. 0,85m in diameter). No traces of a grave associated directly with the enclosure were found. Two secondary, stone-built chambers were found in W part of the barrow.

Earlier settlement traces - traces of occupation were revealed in structures such as stone-built hearth, post-holes and daub. Possibly two or three huts. Pottery of EN-B type.

C-14 dates associated with the settlement traces:

K-3463 : 3130±90 bc

K-3464 : 2940±90 bc (Madsen *pers. comm.*)

Bib.: Madsen (1982) and *pers. comm.*

## ØLSTRUP, distr. Vårde

DNK - 11

Des.: 1 elb (?). L. 45m; W. 11m; Orient. E-W.

Graves 1 and 2 - one likely to have been of Troelstrup type.

Bib.: Madsen (1979) 306

Mathiassen (1936).

## ØSTERGÅRD, distr. Viborg

DNK -12

Des.: 2 rectang. elbs, not quite parallel to one another.

12/1 (eastern) L. 30m+; W. 9m; Orient. NE-SW.

Mound - an original low earthen mound is suggested by a 0,2-0,3m thick deposit between topsoil and subsoil.

Enclosure - shallow pits found along the edges of the excavated area may suggest an enclosure built of individually placed timber uprights. However, the pits are irregularly spaced and may equally well represent traces of unrelated (earlier?) structure. At N end a 'facade' of three individual posts.

Interior structures - transverse partitions - a minimum of 9 stake-hole rows divide the area into compartments between 4 and 6m by 9m in size; divisions seem to be associated with placement of graves.

Graves - remains of 5 graves, all badly damaged, were recovered.

The best preserved of these was constructed as follows:

On an area of cobbled paving (5 x 2,5m) there was a framework of stones forming a 3-sided enclosure 0,9 x 2,5m (S side open). Traces of 4 deep holes at intervals of 1m (found to one side of the grave) suggest existence of timber superstructure. Madsen interprets this grave as of Troelstrup type.

12/2 L. 30m+; W. 8m; Orient. NE-SW.

Mound and enclosure - as above.

Interior structures - traces of 3 transverse stake-hole rows in the same relation to the graves as in 12/1.

Graves - traces of 3 graves - badly damaged. According to Madsen, one of Troelstrup type.

Bib.: Madsen (1972) 147-148

(1979) 305-306; No.10; Fig. 5.

RUDE, distr. Århus

DNK -13

Des.: 1 rectang elb. L. 58m; W. 8-9m; Orient. E-W.

Mound - original mound low, covered with a stone mantle of which only scanty traces remain.

Kerb - very shallow trenches delimiting the mound may suggest an original kerb of small stones.

E end terminated with 2-phased timber constructions:

(1) Early phase - a first facade (unburnt) seen from a cross-section of the E end of barrow revealed that the later facade was dug into an already existing trench. Decayed or removed.

Forecourt enclosure - to E of 1st facade; a pit 3,7 x 4,4-5m in size had timber stakes 0,1m in diameter set 0,1-0,2m apart all along and within the inner edge. Thought by the excavator to represent an enclosure of posts and wattle.

Associated with 1st facade (Madsen 1980, Figs. 9, 11d, 12).

(2) Later phase - 2nd timber facade. Foundation trench, running N-S, was 5m long, 1,2 - 1,6m wide and 1m deep.

Among the stone packing remains of 7 split trunks (0,6 -0,8m in diameter) were found *in situ* (*Ibid.* Fig. 8, 10, 11a-c).

Finds - 3 funnel-necked beakers of EN-B type were found in association with the burnt facade (*Ibid.* Fig. 9 and 13).

C-14 dates associated with the burnt facade:

(1) K-3124 : 4910±90 bp or 2960±90 bc (sample associated with carbonised strip of large post).

(2) K-3125 : 4810±70 bp or 2860±70 bc (sample associated with a branch 5cm in diameter).

Grave 1 (western) - a cist 1,85 x 0,5m, 0,6m deep, built of split stone slabs; surrounded on ground level with a layer of gravel (drainage). In 1894 a skeleton was found with a small copper disc tied to the wrist.

C-14 date associated with the cist

K-3123 : 4260±85 bp or 2310±85 bc.

Grave 2 (eastern) - a cist 2,35-2,45 x 0,44-0,5m, and 0,4-0,5m deep; long sides each of 3 split slabs; bottom paved with flat stones. In 1894 a single skeleton was found; no grave-goods.

Excav. Madsen 1977-1978.

Bib.: Madsen (1979) 307; No. 19; Fig. 4c

(1980) 79-108

Randsborg (1970) 181-190.

RUSTRUP, distr. Silkeborg

DNK - 14

Loc.: 10 km S of Silkeborg.

Des.: 1 elb (ploughed up).

L. 25m(?); W. 7m; Orient. E-W.

Mound - completely destroyed; only a single layer of stone mantle (13 x 6m) including burnt flint.

Interior structures -

(1) At E end - a N-S oriented foundation trench 4,9 x 1,05-0,80m and 1,20-1,08m deep; traces of closely spaced posts about 0,2m in diameter set within the stone packing in the trench.

(2) Central area (underneath a stone mantle) - round and oval brown stains containing charcoal, thought to represent post-holes; traces of a timber-built construction surrounding the grave (?).

(3) At W end - 2 staggered rows of 11 and 9 stake-holes, 7-8cm in diameter and dug to 17-19cm depth.

Grave 1 - under N part of the stone mantle, an ill-defined patch of brown soil up to 10cm thick.

Finds - multi-faceted axe (Fischer 1976, Fig. 35) and an amber bead (*Ibid.* Fig. 36).

Other finds - pottery (beakers, lugged vessels, clay discs), transverse arrowhead, flint implements, amber beads (non-megalithic C).

Grave 2 - 6m west of stone mantle. U-shaped feature 4 x 1,55m (interior size) open to south. 1 post-hole within the opening. Northern two-thirds of interior contained 5-10cm thick fire layer (charcoal and leached white sand).

Finds - pottery (non-megalithic C), flint and fragments of daub. Interpreted as burnt grave structure.

C-14 dates associated

(1) Transverse bedding trench

K-2254 : 4960±100 bp or 3020±100 bc

K-2253 : 4910±100 bp or 2960±100 bc

(2) Grave 2

K-2255 : 4920±100 bp or 2970±100 bc.

Bib.: Fischer (1976) 29-71

Madsen (1979) 306; No. 15

SALTEN LANGHØJ, distr. Skanderborg

DNK - 15

Des.: 1 trapez. elb. L. 20m; W. 4-2m; H. 0,5-1m; Orient. E-W.

Mound - stone covering.

Grave 1 - 5,5m from E end; a pit 3-3,3 x 1,6m and 0,3m deep with stone setting at the edge, and a post-hole at W end (Konens høj type?).

Grave-goods - 2 flint axes (Becker 1947, Fig. 52), circular and tubular amber beads (*Ibid.* Fig. 53), a copper disc (*Ibid.* Fig. 54).

Bib.: Becker (1947) 249-254; Figs. 51-54

Madsen (1972) 136

(1979) 306; No. 17.

SJØRUP PLANTAGE, distr. Viborg

DNK - 16

Loc.: Several hundred metres N of prehistoric road on Karup Heath.

Des.: 1 rectang. elb. L. 45m; W. 13m; Otient. E-W.

Kerb - traces of destroyed stone kerb with both ends curving inwards.

Interior structures - at E end and beyond the kerb a ditch curving towards the N (foundation bedding trench of a timber facade?).

Grave - 3 graves were uncovered; 2 within the stone kerb, 1 to the N (between the kerb and a ditch). Only central grave sufficiently preserved to indicate construction. A rectang. stone setting of large stones and dry-stone walling, covered by timber planks (?); ante-chamber of timber, with a post-hole in each of outer corners.

Grave-goods - 2 flint knives and an amber bead. Other graves contained an amber ornament with edge perforation, single amber bead.

All graves of Troelstrup type according to Madsen's interpretation.

Bib.: Jørgensen (1977) 10-11

Madsen (1979) 305; No. 8.

SKIBSHØJ, distr. Viborg

DNK - 17

Loc.: On the heath near Sjørup.

Des.: 1 trapez. elb. L. 70m; W. 5(W)-10m(E); Orient. E-W.

Kerb - stone-built, apparently belonging to a later phase of construction involving erection of a dolmen.

Grave 1 - at E end; U-shaped structure open to the S; 4 x 5m in size. Outer walls - piles of stone; inner walls - upright stone slabs with dry-stone walling on top. Roof - 5 longitudinally placed planks. Whole structure fired at some stage.

Burials - remains of 5 individuals: 1 adult (20-30 years), 3 children (about 11 years), 1 infant.

Grave-goods - 1 flint axe, amber beads and an amber ornament with perforated edge.

Bib.: Jørgensen (1977) 7-10  
Madsen (1979) 305; No. 9.

STENGADE, distr. Rudkøbing

DNK - 18

Loc.: 10 km NE of Rudkøbing.

Des.: 2 structures, 45m apart. Originally interpreted as houses but may represent damaged elbs.

18/1 L. 36m; W. 5m; Orient. ESE-WNW.

Remains of stone foundations; on average 1,6m wide; mostly in 1-3 layers. W end destroyed.

Entrance - 5m from E end, along N wall, 1m wide gap with additional stone foundations 2,5 x 2,5m - porch(?). Walls built of timber planks covered with daub(?).

Interior structures - in the middle an area of stones 2 x 4m in size; 3 pits up to 0,9m deep beneath - transverse partition.

Grave 1 - in E half of structure, a rectang. pit 4m long, 1,35-1,40m wide and 0,5m deep. Within it a rectang. stone-built enclosure (27 field stones).

Pavement of stones of 0,2-0,4m in diameter covered the grave.

Enamel of 15 human teeth (milk teeth - suggesting buried child of about 6 years).

Grave-goods - sherds of a lugged beaker (Skaarup 1975, Fig.

Fig. 38,2), lugged jug (*Ibid.* Fig. 37) and 4 transverse arrow-heads (*Ibid.* Fig. 37,1-4).

Glob (1975) mentions analogous grave in W part of structure.

Earlier settlement traces - cultural debris (flint, pottery, burnt animal bone and charcoal) were freely mixed with the stone foundations.

18/2 L.33m; W. 2-3m; Orient. ENE-WSW.

Heavy foundations slightly trapez. in outline, similar to 18/1. Stretches of very straight inner edges suggest walls of horizontally laid planks. Traces of post-holes found along the N and S walls, remains of daub and charcoal in and around the structure. 2,5m from W end stone foundations of interior partition, similar arrangement in the middle of the structure.

Earlier settlement traces - analogous to 18/1; fire-places found to the N and S of the structure.

Bib.: Glob (1975) 10-14

Madsen (1979) 308; No. 28

Skaarup (1975).

SURLØKKE, distr. Sønderborg

DNK - 19

Loc.: 400m W from the coast of Als Sund, near Dybbøl.

Des.: 1 trapez. elb. L. 27m; W. 3,75 (W)-5m(E); Orient. E-W.  
Mound - heavily ploughed out.

Enclosure - a continuous trapez. foundation trench was found. It varied in width from 0,10 to 1,05m and from 0,04 to 0,70m in depth. Dark brown fill with stone packing, especially at E end, and occasional traces of posts.

At about 3-4m from W end a transverse, stone-free trench was noted, which was up to 1,6m wide (segment to the W apparently a later addition).

Pottery sherds (classed as Early Neolithic) and flint found within the trench, especially at E end.

The excavator compared this structure to DNK-20, DNK-6 and DNK-4).

Bib.: Sterum (1983) 33-40.

TEGLEVAERKSGÅRDEN, distr. Vårde

DNK - 20

Loc.: 4 km NE of Vårde.

Des.: 1 trapez. elb (?) underneath a later, circular mound.

L. 14m; W. 2(NW)-4m(SE); Orient. SE-NW.

Enclosure - a continuous trapez. foundation trench was found.

It varied in width from 0,6 to 0,8m and was of a constant depth of 0,6m; traces of posts 0,2-0,3m in diameter and spaced 0,1 to 0,2m apart were noted within the trench.

At SE end the trench widened to 1,6m and was 1,2m deep. Traces of posts were found among heavy stone packing; sherds of megalithic - C pottery also found.

Grave(?) - no actual grave was noted but a timepiece-shaped



amber bead (Faber 1976, Fig. 4) was found in an oval pit  
(1,6 x 1,4m) located at the S side of the foundation trench.

Bib.: Faber (1976) 5-11

Madsen (1979) 308; No. 22.

TOLSTRUP, distr. Års

DNK - 21

Des.: 1 rectang. elb; very badly damaged.

L. 20m+; W. 6m; Orient. SE-NW.

Kerb - a stone-built kerb surrounded the barrow at some stage;  
only 10 boulders preserved.

Grave 1(?) - 1,5 x 1,2m area of burnt clay, between 2 and 6cm  
thick; charcoal traces.

Grave 2 - 2,5-3 x 2-3m area of burnt clay; associated finds  
include 5 EN-A vessels, point-butted flint axe and a piece of  
amber.

Grave 3 - an area of stones, 4 x 2,5m representing destroyed  
grave structure. 2 pits were noted: (1) 0,6 x 0,4m in size and  
0,25m deep, NW of stone concentration; (2) 1 x 0,7m and 0,25m  
deep, 1m to SW. Associated pottery sherds of 8 vessels (Late EN)  
and amber beads.

Grave 4 - stone arrangement 2 x 1,5m, undecorated lugged flask  
and another pot associated with it.

Bib.: Madsen (1975) 121-154

(1979) 303; No. 2.

TROELSTRUP, distr. Års

DNK -22

Des.: 1 rectang. elb; badly damaged.

L. 45m; W. 12m; Orient. ESE-WNW.

Enclosure - a rectang. foundation trench (constructed in two  
phases, each corresponding to one grave) was on average 0,3m  
wide and 0,5m deep. Dark brown fill. Transverse N-S oriented  
trench (curving towards E) divided enclosure into 2 segments.

Grave 1 - W segment of enclosure. A rectang. stone setting of  
7 x 4m and 1,3m high, an opening to S (1,1m long and 0,9m  
wide) interpreted as entrance to a stone-free interior

3,6 x 0,9m in size. Straight interior stone edges and stone-free fill suggest that the grave was built of wooden planks and was 0,1-0,2m higher than surrounding stone supports.

Grave 2 - E segment of enclosure. Analogous in construction to no. 1 but less well preserved.

Associated finds - lugged flask (EN) found in the foundation trench.

Bib.: Kjaerum (1977) 19-26

Madsen (1979) 303; No. 4.

VEDSTED, distr. Haderslev

DNK - 23

Des.: 1 rectang.(?) elb; badly damaged.

L. 10m+; W. 7m; Orient. E-W.

Kerb - built of stones.

Grave 1 - an arrangement of stones (E-W) 4,5 x 1,5-2,5m, 0,7-0,8m tall at ends and 0,3m in the middle.

2 stone-filled pits found beneath, 2,5m apart: (1) 1,3 x 0,5m, (2) 1 x 0,3m, both 0,42-0,46m deep.

Interior of grave marked by charcoal staining along the edges.

Grave-goods - a collared flask.

Bib.: Madsen (1972) 129-130

(1979) 308; No. 25.

## LITTLE POLAND

KOLONIA CHRUSZCZÓW, distr. Puławy

LPOL - 1

Loc.: In a flat-grave *TRB* cemetery.

Des.: 1 poss. elb (badly damaged).

A large area of stone paving at least 10m long and 5m wide.

Top layer of limestone, then two additional layers of stones each about 0,3m thick separated by layers of clean loess.

Stone pavement covered 5 individual graves. Each grave contained an extended inhumation.

Grave 1 - 3 x 1,2m pit; extended inhumation, no grave-goods.Grave 2 - fragments of skull and long bones, no grave-goods.Grave 3 - a pit 1 x 1,6m in size, underneath the stones remains of an extended skeleton, accompanied by an *ansa lunata* pot.Grave 4 - remains of a human skeleton underneath a layer of stones, accompanied by cattle bones (?); a stone battle axe found among the stones above the skeleton.

Bib.: Gurba (1957) 136, 143, 145-147.

LUBLIN-SŁAWINEK, distr. Lublin

LPOL - 2

Des.: 1 triang. elb. L. 37,5m; W. 6m; Orient. E-W.

A foundation bedding trench underneath elb was found to contain traces of timber posts.

Graves - 3 graves covered with stone pavements found in E part; two oriented E-W, one N-S; central grave contained a skeleton of a male of about 30 years, accompanied by an *ansa lunata* pot. Similar pot found in another grave.Bib.: Jastrzębski, *pers. comm.*

Jażdżewski (1970a) 35.

MIŁOCIN-KOLONIA, distr. Lublin

LPOL - 3

Loc.: 20 km W of Lublin, on the Nałęczów Upland. At the edge of a steep N slope.

Des.: 2 poss. elbs, badly damaged.

3/1 L. 28m+; W. 6,5m; Orient. E-W.

Kerb - built of limestones of about 0,5m in diameter; on N and S side a band of stone paving (cf. WPOM-25 and DNK-8) not touching the kerb directly.

Interior structures -

(1) at E end - 1 oval pit c. 3 x 2m, 1,75m deep; sides covered with limestone slabs (another grave?).

(2) to W of grave 1 - 2 x 1,3m large pit, filled with dark humus and charcoal, covered by same pavement as grave 1

(3) to N of grave 1 - a pit 1,7 x 1,2m large and 1,1m deep; fill analogous to pit (2), contained 1 frag. of a *TRB* pot.

Grave 1 - 6,5m from E end, centrally placed E-W oriented pit 3,2 x 1,6m (slightly trapez.), up to 0,7m deep. Some stones in the fill, covered with stone pavement.

Possible other graves outside elb, underneath N and S stone pavings (?).

3/2

Traces of kerb of another barrow with interior stone fill came to light 5m S of 3/1; only partially excavated, no graves noted. Additional dark smudge observed along the N edge of the kerb (traces of timber construction?).

Bib.: Jastrzębski, *pers. comm.*

NAŁĘCZÓW-KOLONIA, distr. Puławy

LPOL - 4

Loc.: Within a flat-grave cemetery.

Des.: 1 poss. elb (badly damaged).

L. 15m; W. 5-3,5m; Orient. E-W.

Stone paving of above size covered 5 individual graves. Along the N edge of the paving, 0,3-0,7m away, was another band of stones 0,4m wide, running parallel to stone paving for a distance of about 10m (foundations for timber edging?).

Bib.: Gurba (1970) 67-99.

NIEDŹWIEDŹ, disrt. Miechów

LPOL - 5

Loc.: On the right side of the Szreniawa river valley, on top of a sharply falling slope; 50m NW of *TRB* settlement.

Des.: 1 poss. trapez. elb.

L. 47,9m; W. 9,5(E)-3,2m(W); H. 0,2m; Orient. E-W.

A trapez. continuous bedding trench with a 2m gap in middle of E end, 0,5-0,7m wide on average and up to 0,7m deep. Traces of 150 timber posts were found throughout the trench, decayed *in situ*. Posts were between 0,2 and 0,4m in diameter, some pointed at the bottom. No associated finds.

In the interior, 1 pit at E end was found to contain a Corded Ware Culture crouched inhumation (intrusive?). 1 pit to the outside contained sherds of *Late LBK* Culture.

Structure interpreted as remains of a *Late LBK* house but could represent a badly damaged elb set within a timber enclosure.

Insufficient information available.

Bib.: Burchard (1973) 39147.

STRADÓW, distr. Kazimierza Wielka

LPOL - 6

Loc.: On top of a hill, 1 km NE of Mediaeval settlement.

Des.: 1 poss. elb. L. 30m (?).

Mound - badly damaged.

Interior structures - in the vicinity of the grave stretches of a foundation trench were found between 0,3 and 0,5m deep with traces of timber posts (0,1-0,3m in diameter) set next to one another and wedged with stones.

Grave 1 - a pit 2,4 x 1,2m, lined and covered with limestone slabs; traces of skeleton of an adult accompanied by an *ansa lunata* pot.

Traces of earlier settlement - throughout the mound and in the vicinity of the grave, quantities of pottery sherds, daub, charcoal and other domestic debris were found.

Bib.: Gromnicki (1961) 11-15.

## SAXONY

DÖLAUER-HEIDE, distr. Halle

SAX - 1

Loc.: On the NE edge of the Bischofswiese which forms a part of the Dölauer Heide plateau.

Des.: 1 trapez. mound. L. 30m; W. 23m (E) - 11-9m (W);

Orient. ENE-WSW.

Enclosure - continuous but irregular ditch surrounds a trapez. area. The ditch varies in size: N, W and S side - 0,7-0,9m deep and 1,2-2m wide at upper lip; E side - 0,2-0,3m deep and 0,7m wide. Moment of ditch construction uncertain. According to Behrens (1958) it was cut in connection with grave 6 (see below). This is not contradicted by ditch material (clay and gravel) deposited in bands inside the N and S segments of the ditch (*Ibid.*, Figs. 15 and 16). However, Fig. 15 shows that grave 6 cuts through identical deposit inside the E segment of the ditch and would therefore support grave 6 being later, at least, than the E part of the enclosure. The sections of the mound do not aid interpretation since they cannot be correlated with the horizontal plan of the monument (*Ibid.*, Fig. 15), and the lack of information on vertical positions of the grave structures makes interpretation very difficult and entirely unsatisfactory.

Kerb - traces of stone setting have been noted inside the W part of the enclosure - apparently also derived from the ditch. Regular outline suggests that stone arrangement may have formed a revetment of the mound or may even represent destroyed stone enclosure inside the area enclosed by ditch - no sufficient information is available to support any of these suggestions.

Interior structures - 2 interior earthen mounds.

(1) - covering grave 1, soil derived from surroundings, incorporating large amount of cultural debris of preceding settlement phase.

(2) - covering grave 2, soil derived from vicinity; incorporates cultural material of preceding settlement phase.

Grave 1 - 5m from E end; a rectang. structure built of wooden

planks, supported with stones on outside and lined with clay inside; 1,1 x 1,4m in size; dug 0,05-0,1m into OLS. Decay of wooden elements caused collapse of stones and earth into the interior (Behrens, *Ibid.* Fig. 2).

Associated finds - 2 transverse arrowheads.

Grave 2 - 7m from E end; a small, wooden chamber, placed in a 0,3m deep pit; covered with clay - some traces of burning?.

Remains of a crouched child's burial (Behrens, *Ibid.* Fig. 4).

Associated finds - atypical flint scraper - possibly intrusive.

Grave 3 - 12m from E end; a rectang. structure built of stones and covered with wooden planks joined together with a band of clay. Bottom of the grave 0,2m above OLS (Behrens, *Ibid.* Fig. 5).

Grave 4 - 10,5m from E end; a small, rectang. stone and timber construction 0,95 x 0,55m; 0,4-0,5m deep into 2nd inner mound; on N and E sides traces of burnt wooden planks forming inner walls; traces of resin suggest that planks were 'glued' together (Behrens, *Ibid.* Fig. 7).

Grave 6 - 4,5m from E end; a rectang. pit dug 0,1m into OLS (through 1st and 2nd inner mounds ?), very badly disturbed by construction of Corded Ware culture stone chamber. Remaining part measured 1,4 x 1,1m; SW part - heap of human bones, not a complete skeleton; male c. 45 years of age.

All graves - Salzünde group of TRB culture (?). Remaining graves in the mound post-date the construction of the mound associated with the trapez. ditch.

#### Pre-barrow features -

- (1) 2 graves (Behrens and Schröter 1980, graves no. 11 and 12)
- (2) Earlier Baalberge (?) - Salzünde settlement; traces of double palisade and a 20m long house. Lack of plan showing the relative position of the structures makes interpretation of this location difficult.

Bib.: Behrens (1957) 225-228

(1958) 213-242

Behrens and Schröter (1980), grave mound No. 6; 68-78.



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